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GENERAL INFORMATION

INTRODUCTION

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Congratulations on having purchased this product, which we are sure will satisfy your requirements and meet your expectations. This is a ZUCCHETTI CENTRO SISTEMI S.p.A. project. Zucchetti (a UNI EN ISO 9001 certified company) is a software house which, since 1982, has consolidated its activity and presence on the international market. Applying advanced informatics solutions for the industrial automation means optimizing production activities and simplifying work procedures. This product derives from the constant research activity of the ZUCCHETTI laboratories.

PURPOSE OF THE MANUAL

- This manual forms an integral part of the appliance and was produced by the Manufacturer to provide the necessary information to people authorised to interact with it during its expected working life.
- Operators of the appliance must adopt correct working techniques and must carefully read and follow the instructions contained in this manual.
- This information is provided by the Manufacturer in its original language of Italian and may be translated into other languages for legal and/or commercial purposes.
- Carefully read the instructions in this manual to avoid unnecessary risks relating to personal health and safety and economic damages.
- Keep this manual in a safe and easily accessible place for quick reference.
- Some information and illustrations contained in this manual may not perfectly correspond to the appliance in your possession, however, this does not compromise its functioning.
- The Manufacturer has the right to make changes without notice.
- The following systems are used throughout this manual to highlight particularly important information or to indicate important specifications.

Danger - Attention

This symbol identifies situations of imminent danger, which, if ignored, could lead to serious bodily injury or death.

Warning - Caution

This symbol identifies situations where it is necessary to behave in a certain way to avoid serious serious bodily injury and to protect the robot.

Important

This symbol identifies particularly important technical information, , if not followed, could lead to damage to the robot.

IDENTIFICATION OF MANUFACTURER AND EQUIPMENT

The data plate shown is applied directly onto the appliance. It contains references to information which is essential for safely operating the robot.

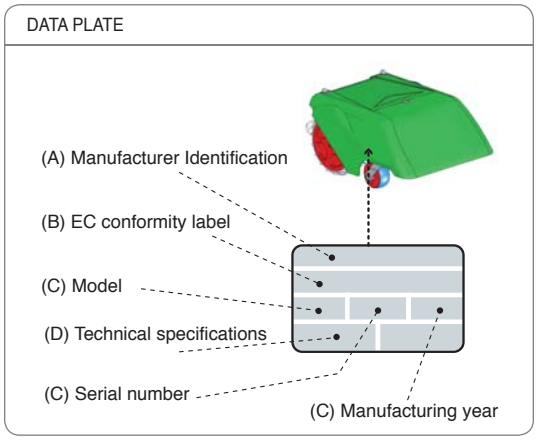
For any technical requirements, please contact the Manufacturer's Technical Service Centre or an authorised centre. For technical assistance, indicate the data reported on the data plate, the approximate operating hours and the type of fault detected.

A. Manufacturer Identification.

B. EC conformity label.

C. Model / Serial number / Manufacturing year.

D. Technical specifications.



GENERAL DESCRIPTION OF THE APPLIANCE

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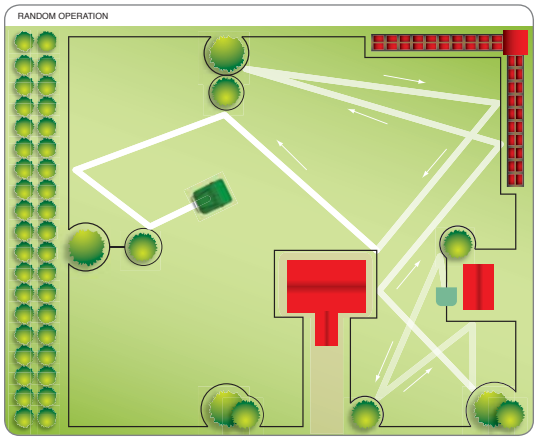
The appliance is a robot designed and built to automatically cut grass in gardens and lawns at any time of the day. It is small, compact, silent and easy to transport.

Depending on the characteristics of the surface to mow, the robot can be programmed to mow several areas: a primary area and then secondary areas (based on the model).

During operation, the robot mows the area delimited by the perimeter wire.

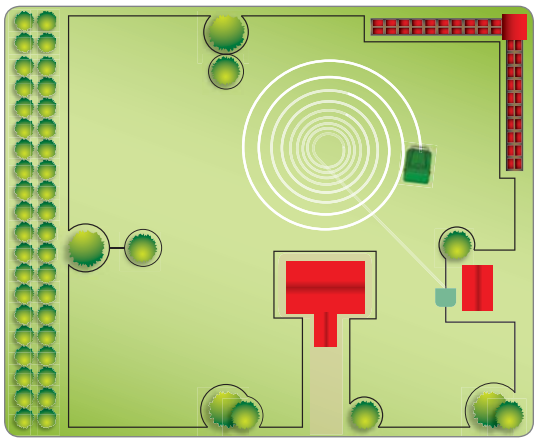
When the robot detects the perimeter wire or encounters an obstacle with a height above **10 cm** (3.94 "), it changes direction in a random manner and starts mowing again in a new direction.

Based on its operating principle (“random”), the robot automatically mows the entire delimited area of the lawn (see figure).



The lawn surfaces that the robot can mow depend on a series of factors, such as:

- model of the robot and type of batteries installed
- characteristics of the area (irregular perimeters, uneven surfaces, divided areas, etc.)
- characteristics of the lawn (type and height of the grass, moisture, etc.)
- conditions of the blade (level of sharpness, without residuals or encrustations, etc.)



All the models are equipped with a sensor that, in case of rain, stops the blade and returns the robot to the charging station. On request, the models can be equipped with upgraded transmitter, power supply safety box and electronic alarm. For more details, refer to the Technical Specifications. Each robot comes with its own recognition password to prevent it from being used if stolen. At the time of purchase, the password entered by the manufacturer consists of four numbers (0000). To personalise the password see “Programming Mode” (Password function).

MAIN COMPONENTS

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A. Battery: supplies power to the blade and wheel motors. The robot is supplied with one or two lithium batteries which guarantee longer mowing times

B. Charging Station: this is needed to recharge or keep the batteries charged (A).

C. Mother board: controls the automatic functions of the robot.

D. Control keyboard: used to set and display the operating modes of the robot.

E. Cutting blade: mows the lawn.

F. Electric motor: operates the cutting blade (E).

G. Electric motor: one operates the right-wheel transmission unit, while the other operates the left wheel.

H. Transmitter: transmits the signal to the perimeter wire.

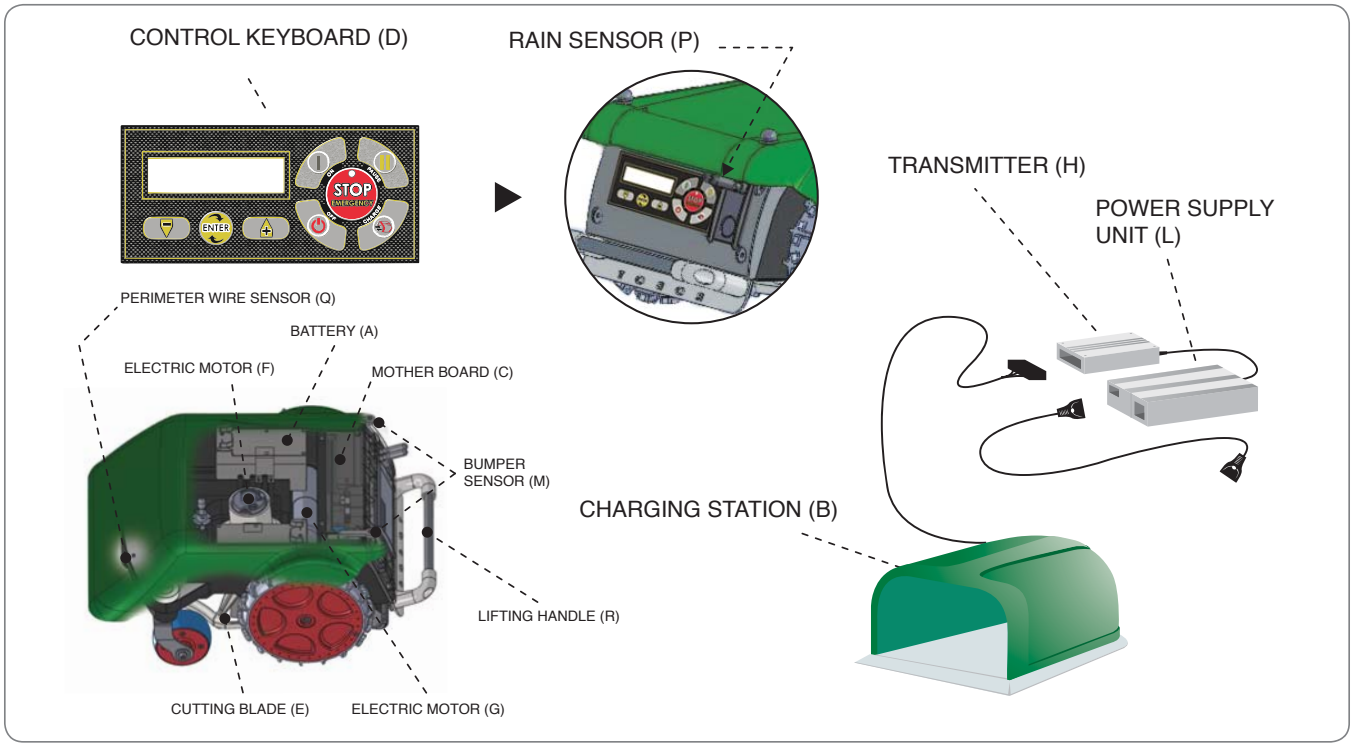
L. Power supply unit: supplies power, in low voltage, to the batteries.

M. Bumper sensor: detects when the robot is about to hit an obstacle that is higher than 10 cm (3.94 ") and enables the random change of direction.

P. Rain sensor: detects rain and commands the robot to return to the charging station (P).

Q. Sensor: detects the perimeter wire and enables the robot to change its direction in a random manner.

R. Handle: used to lift and carry the robot.



TECHNICAL SPECIFICATIONS

Description		Model			
		9L2BL	9L2DL	9L2EL	9L2LL
Maximum recommended surface that can be mowed					
Robot equipped with two lithium battery. (2.3Ah)	**m2** (sq ')	**1400** (15064)	-		
Robot equipped with one lithium battery. (6.9Ah)	**m2** (sq ')	**1900** (20444)	**2600** (27976)	-	
Robot equipped with two lithium batteries. (6.9Ah)	**m2** (sq ')	-		**3000** (32280)	
Characteristics					
Size (W x H x D)	**mm** (")	**610x265x410** (24,02 x 10,43 x 16,14 **"**)			
Robot weight (incl. battery)	kg	11,6 (2x2.3Ah) 12,0 (6.9Ah)	12	13	
Cutting height (Min-Max)	**mm** (")	**20-56** (0,79-2,25 **"**)			
Diameter of blade with 4 cutting edges	**mm** (")	**290** (11,42 ")			
Electric motors	V	cc. (25.2 V) with brushes			cc. (25.2 V) without brushes
Cutting blade speed	RPM	4000 Cut 3000 Maintenance			
Ground speed	**Meters / Minute**	**26** (85 ')			
Maximum slope Recommended	%	45%. Allowable, based on the lawn conditions and accessories installed. 35%. Maximum recommended, in conditions of a trimmed lawn. 20%. Next to the outside edge or guide wire..			
Ambient operating temperature	Max°	**ROBOT** -10°(14 F.) (Min) +50° (122 F.) (Max) **BATTERY CHARGER** -10°(14 F.) (Min) +40° (104 F.) (Max)			
Measured noise level	dB(A)	75 (Max) – 65 (Lawn maintenance)			
Water protection class	IP	IP21			
Electrical features					
Power Supply unit (for lithium battery)		Class 1(Vin 90 - 295Vac 47/63Hz) AC current (typ.) 2A/115Vac 1 A/230Vac			
Battery type and charger					
Rechargeable battery Lithium-Ion	V-A	25,2V – 2x2.3Ah 25,2V – 1x6,9Ah	25,2V – 1x6,9Ah	25,2V – 2x6,9Ah	
Battery charger	V-A	29.3 Vcc - 5,0 Ah			
Average recharging time and method		2:00 (2x2.3Ah) automatic 3:00 (6.9Ah) automatic	3:00 automatic	4:00 automatic	4:30 automatic
Average operating time (*)	Hours	1:30 (2x2.3Ah) 3:00 (1x6.9Ah)	3:00	4:30	6:00
Blade safety stop					
Rollover sensor		standard			
Lifting sensor		Optional	standard	standard	standard
Emergency button		Optional	standard	standard	standard

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Equipment and accessories			
Perimeter wire	**m** (')	**100** (328 ')	**150** (491 ')
Maximum length of perimeter wire (indicative, calculated based on a regular perimeter)	**m** (')	**600 (1000 with upgraded transmitter, not supplied)** (1968 – 3280 ')	
Fastening nails	n°	100	200
Areas managed, including the primary one		3	4
Sinusoid perimeter signal (patented)		standard	
Rain sensor		standard	
Blade modulation and intelligent spiral		standard	
Mowed lawn recognition sensor – Auto Setup (patented)		Not Available	standard
Acoustic alarm		Optional	standard
Remote control		Optional	
Upgraded perimeter wire transmitter		Necessary in case of long perimeter wire or in the presence of a disturbed or weak signal Optional	
Power supply safety box		External box for holding the battery charger Optional	
Battery recharging kit		Useful for recharging the batteries in winter or after prolonged inactivity Optional	
Wheel claw		Improves the robot's grip in case of slopes or slippery surfaces Optional	
8-edged blade		Specifically for early season rapid growth and for lawns that require greater cutting power Optional	

(*) Based on the conditions of the grass and grassy surface.

SAFETY INFORMATION

SAFETY REGULATIONS

- During design and construction, the Manufacturer carefully considered the personal health and safety risks of those operating with the robot. In addition to respecting the applicable current laws, the Manufacturer adopted all the "regulations of good manufacturing techniques." The purpose of this information is to advise users on placing special attention to prevent risks of injury. However, prudence and caution is irreplaceable. Safety is also in the hands of operators who interact with the appliance.
- **When using the robot for the first time, it is recommended to carefully read the entire manual and to fully understand it, particularly any and all safety information.**
- Carefully read the instructions in this manual and those that apply directly to the machine, especially the safety information. Carefully study this manual to prevent injuries or accidents. It is always too late to remember what you should have done after the fact.
- Lift and move the robot according to the information reported directly on the packaging, on the appliance and in the user instructions provided by the Manufacturer.
- Pay attention to the symbols that appear on the robot and in this manual; their shape and colour are important for safety purposes. Keep them legible and follow the instructions.
- The lawn mower can only be used by people who know how to operate it and who have read and understood the instructions in this manual.
- Only use the robot for the intended purposes specified by the manufacturer. Improper use of the robot may lead to serious injury or death.
- Before using the lawn mower, make sure there are no objects on the lawn (toys, branches, clothing items, etc.).
- When using the robot, make sure the work area is clear of people (in particular children, the elderly or disabled people) and domestic animals to prevent safety risks. To prevent this risk, it is recommended to operate the production activity of the robot at suitable times of the day.
- Never allow people to sit on the robot.
- Never lift the robot to inspect the blade during operation.
- Do not place hands and feet under the robot at any time.

- Do not tamper with, sidestep, eliminate or bypass the safety devices installed. The non-observance of this requirement may cause serious personal injury or death.
- Keep the lawn mower in conditions of maximum efficiency by carrying out the maintenance operations provided for by the Manufacturer. Proper maintenance will allow obtaining the best performances and longer operating times.
- Before carrying out any maintenance and adjustments disconnect the electric power supply. The user must ensure that all the necessary safety conditions are in place, especially when working on the lower part of the lawn mower, and must follow the Manufacturer's procedures and instructions.
- Use the personal protection devices prescribed for by the Manufacturer, in particular, always wear protective gloves when working on the cutting blade.
- Before replacing the batteries, always remove the blade.
- Make sure the air openings of the power supply unit are free and clear of residuals.
- In order to not irreversibly damage the electric and electronic parts, do not wash the robot with high-pressurised water and do not immerse it in water, partially or completely, since it is not watertight.
- Only qualified persons, having the necessary technical expertise and skill, should attempt to work on or repair this robot. Failure to observe these requirements could result in serious injury.
- Any work to be performed on the charging station must be carried out with the plug of the power cord disconnected.
- Replace any worn or deteriorated parts with original spare parts to ensure proper functionality and safety.
- The robot cannot be used without the upper cover; if the mechanical parts of the robot are damaged, they must be replaced.
- Any routine or extraordinary maintenance (e.g. battery replacement) must be performed by an authorised service centre.
- The Manufacturer shall not be held liable if non-original spare parts are used.
- Never use and recharge the robot in explosive and/or flammable environments.

SAFETY DEVICES

1. Bumpers

The bumper sensor is enabled if the robot strikes a solid object higher than 10 cm (3.94 "). This sensor will stop the movement in that direction and move backwards to avoid the obstacle.

2. Inclinometer

If the robot works on a slope which is steeper than the maximum limit, or tips over, this safety device will stop the cutting blade.

3. Emergency stop switch

Located on the control panel, red in colour. Pressing this button at any time during operation will immediately stop the movement of the mower and the rotation of the blade will stop within 2 seconds.

4. Over-current protection

The motors (blade and wheels) are monitored continuously during operation for any situation that may cause them to overheat. If this occurs in the wheel motor, the robot will attempt to move in the opposite direction. If the over-current persists, the robot will stop and signal an error. If the cutting motor overheats, then there are two types of intervention. If the parameters fall within the first range, the robot will perform the manoeuvres to unblock the cutting blade. If the over-current is below the protection range, the robot will stop and signal a motor error.

5. No signal of the sensor

If there is no signal on the perimeter cable, the robot will automatically stop.

6. Lifting sensor

In the event that the robot is lifted from the ground by the central handle, the cutting blade will stop rotating.

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SAFETY SIGNALS

Attention! Do not clean or wash the robot with water.	
Carefully read the user instructions and ensure that you fully understand them before using the robot.	
The warnings and safety instructions given in this manual must be followed. Failure to do so could lead to machine breakage and/or serious bodily injury.	
Keep hands and feet away from the cutting blade. Never place your hands or feet underneath the body or close to the robot when it is working.	

This product is password protected.	
Keep children, pets and other people a safe distance away when the robot is in operation.	
This product complies with the current EC directives.	

INSTALLATION

PACKING AND UNPACKING

The robot is delivered suitably packed. When unpacking, carefully remove it and check the integrity of the parts. The contents contain all necessary equipment for operating the robot.

Packing contents:

A. Robot

B. Power supply unit

C. Power cord

D. Charging Station

E. Transmitter

F. Perimeter wire coil

G. Pegs for fastening wire

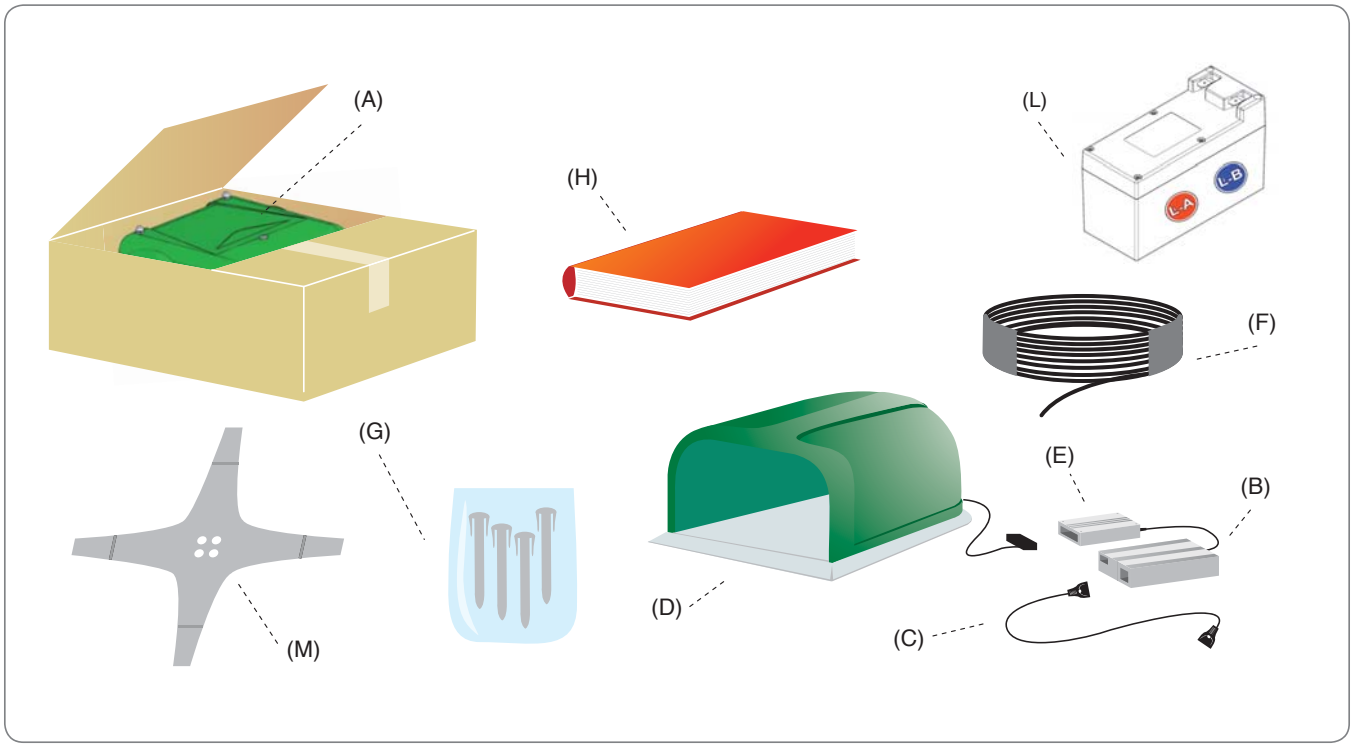
H. User manual

L. Lithium batteries: the number of batteries may vary depending on the purchase order

M. Cutting blade (already assembled in some models)

Important

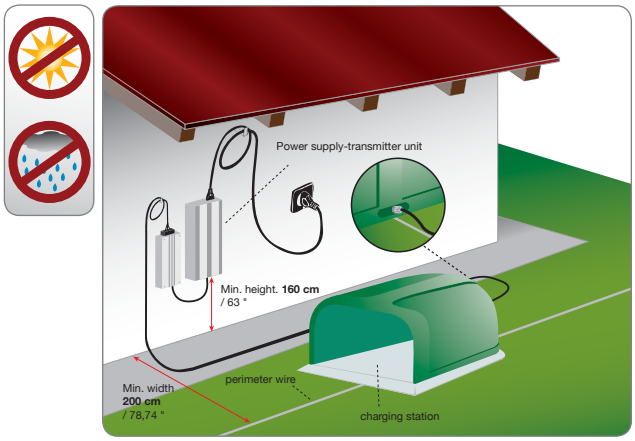
- **The list only includes standard parts. Check the quantity and integrity of any optional accessories requested.**
- **Keep the packing materials for future use.**



PLANNING OF PLANT INSTALLATION

The robot is not difficult to install, but requires some preliminary planning in order to define the best area for installing the charging station, the power supply-transmitter unit and for tracing the path of the perimeter wire.

- The charging station must be positioned on the edge of the lawn, preferably in the largest area where other areas of the lawn are easily accessible. The area with the charging station is hereinafter referred to as the “Primary Area.”



Warning - Caution

Position the power supply-transmitter unit in an area that cannot be accessed by children. For example, at a height above 160 cm (63 ").

Warning - Caution

When connecting the electricity, make sure there is a power outlet near the installation area. Make sure the connection to the mains power conforms to the applicable laws. To operate in complete safety, make sure the electrical system, which is connected to the power supply-transmitter unit, is equipped with a well-functioning earth system.

Important

It is advisable to install the unit in a cabinet for electric components (for outdoor or indoor use) that is well-ventilated to maintain a correct air circulation and equipped with a key lock.

Warning - Caution

Make sure access to the power supply-transmitter unit is allowed only to authorised people.

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- Operation of the robot. The robot must be able to easily find the charging station at the end of the work cycle, which will also be the departure point for a new work cycle and for reaching any other work areas (hereinafter referred to as the “Secondary Areas”).

- Position the charging station according to these rules :

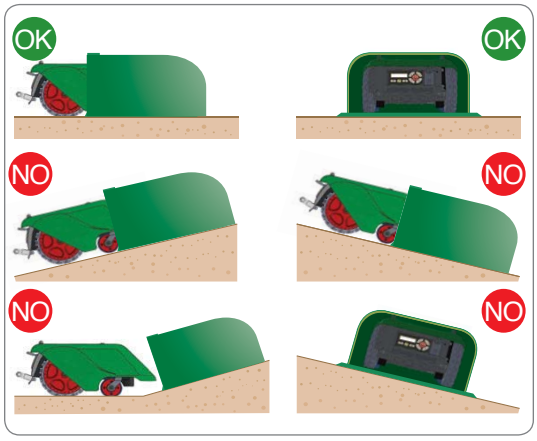
  - On level ground.
  - On compact and stable ground with good drainage.
  - Preferably in the largest area of the lawn.
  - In case of sprinklers, make sure the water jets are not directed inside the charging station.
  - Make sure the entrance of the charging station is positioned as shown in the figure so that the robot can enter it by following the perimeter wire in a clockwise direction.
  - There must be a straight area of **200 cm** (78.74 ") in front of the base.

- The charging station must be well fastened to the ground. To prevent a small step from forming in front of the base, position a small piece of fake grass at its entrance as prevention. Alternatively, remove part of the grassy surface and install the base flush with the grass.

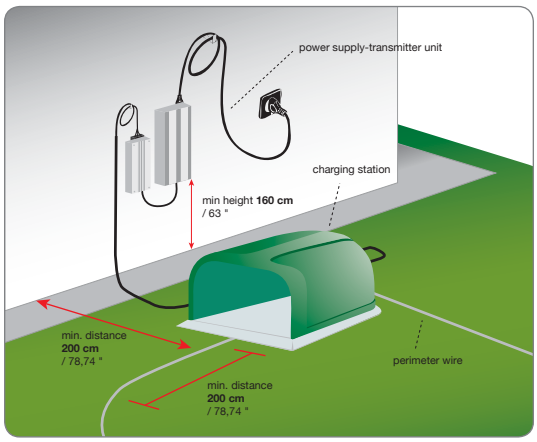
The charging station is connected to the power supply-transmitter unit via a cord that must move away from the charging station on the outside of the cutting area.

- Position the power supply-transmitter unit according to the following rules:

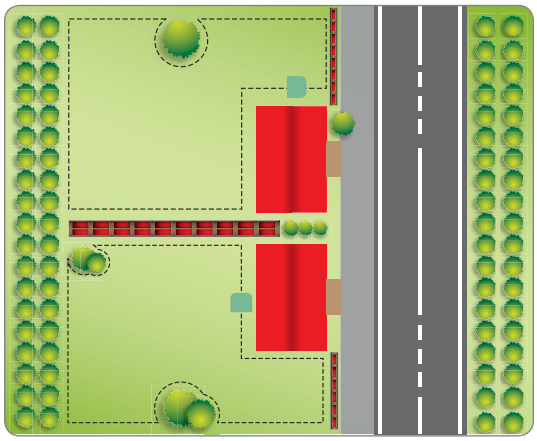
  - In a well-ventilated area protected against atmospheric agents and direct sunlight.
  - Preferably inside your home, a garage or shed.
  - If positioned outdoors, make sure it is protected in a well-ventilated box away from direct sunlight and water. Do not position in direct contact with the ground or in humid environments.
  - Position it on the outside of the lawn and not inside.
  - Position it at least **200 cm** (78.74 ") from the charging station.
  - Stretch out the excess cord going from the charging station to the power supply-transmitter unit. Do not shorten or lengthen the cord.



- The incoming section of the wire must be straight and aligned perpendicularly to the charging station by at least **200 cm** (78.74 ") and the outgoing section must move away from the charging station as shown in the figure; this allows the correct re-entry of the robot.



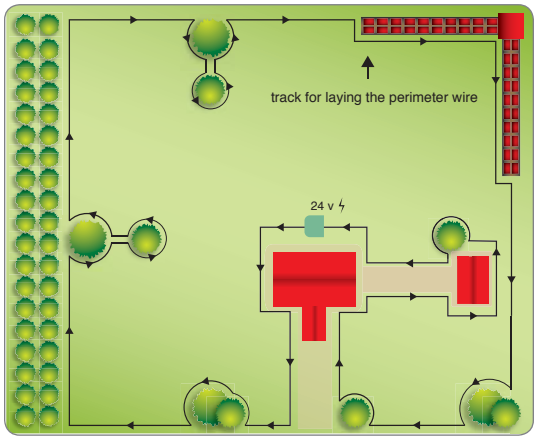
If the robot is installed next to an area which has another robot (by the same or by a different manufacturer), then the power supply-transmitter unit must be modified during installation so that the frequencies of the two robots do not interfere with each other.



SETTING UP THE PERIMETER WIRE

Before installing the perimeter wire, it is necessary to check the entire surface of the lawn. Make any necessary adjustments to the grassy surface during the laying of the perimeter wire in order to allow the robot to operate properly.

1. Proceed with “Preparation and marking the boundaries of the work areas”.
2. Installation of the perimeter wire.
3. Installation of the charging station and power supply-transmitter unit.
4. When laying the perimeter wire, respect the installation direction (clockwise) and the rotation direction around the flowerbeds (anticlockwise), as shown in the figure.



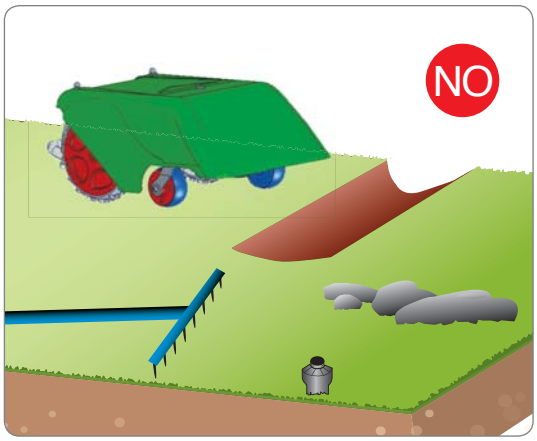
PREPARATION AND MARKING THE BOUNDARIES OF THE WORK AREAS

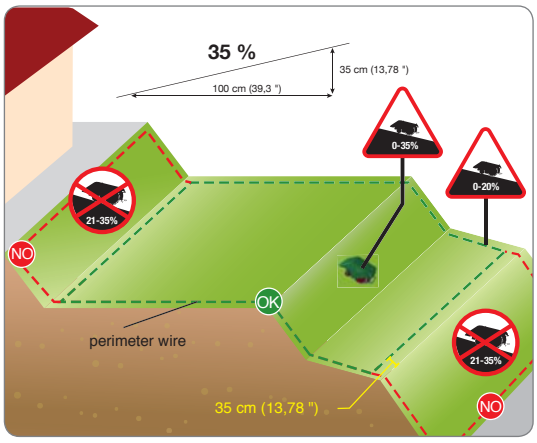
Preparation of the lawn to mow

1. Make sure the lawn to mow is even and does not contain holes, stones or other obstacles. Otherwise, prepare the lawn by filling in any holes and removing any obstacles. If some obstacles cannot be removed, it is necessary to properly mark these areas with the perimeter wire.
2. Check that no areas of the lawn exceed the allowable slopes (see “Technical Specifications.” When operating on slopes, the wheels may slip when the robot detects the wire causing it to fall outside the perimeter. To prevent this from happening, the “Slope Kit” and “clawed” wheels can be installed. If the kit is installed and the ground conditions are suitable (compact, without excessive depressions and holes, etc.), the robot can work (within certain limits) outside the maximum allowable slope limits (see the figure).

Important

Areas with slopes greater than those allowed cannot be mowed with the robot. Therefore, position the perimeter wire before the slope so that it is not included in the area to mow.





Marking the boundary of the work area

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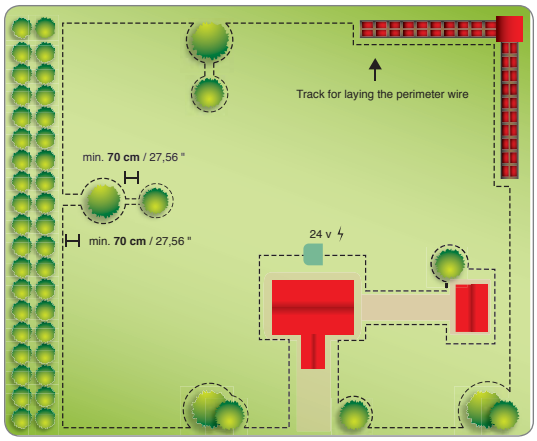
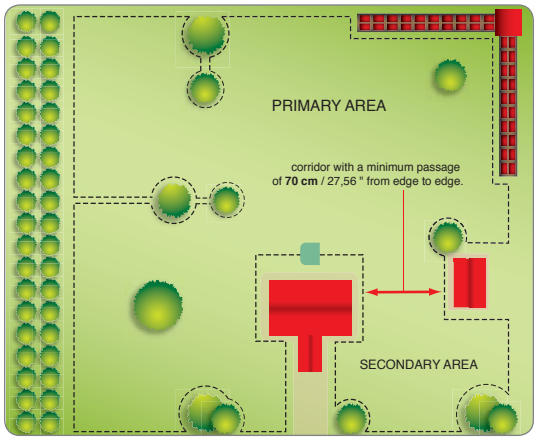
3. Check the entire lawn surface and assess whether it is necessary to divide it into separate work areas. Before installing the perimeter wire, check the entire path to make this procedure easier. The illustration shows an example of a lawn with the track for burying the perimeter wire.



During installation, identify any secondary areas and closed areas. A secondary area is a section of lawn connected to the primary lawn with a passage that is difficult for the robot to reach. The area must be reachable without any rises or drops greater than those allowed. Whether a zone is to be defined a “secondary area” also depends on the size of the primary area. The larger the primary area, the harder it will be to reach narrow passages. More generally, a passage narrower than **200 cm** (78.74 ") is considered a secondary area. The number of secondary areas managed depends on the characteristics of the model (See “Technical Specifications”).

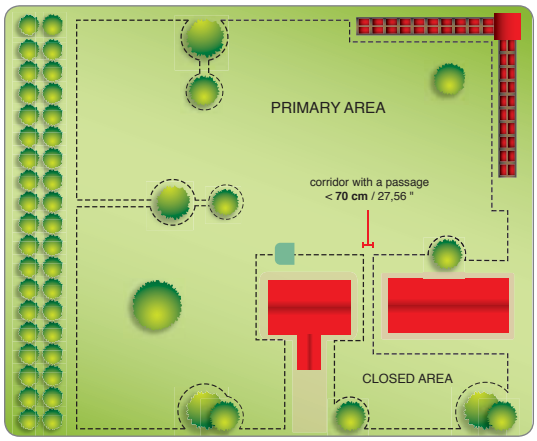
The minimum passage allowed is **70 cm** (27.56 ") from each edge of the perimeter. The perimeter wire must be positioned at a distance of (to be indicated below) from any objects outside the lawn; therefore, the total passage should be **140 cm** (55.12 ").

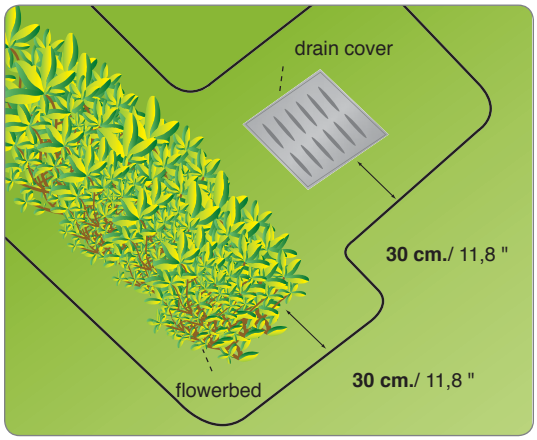


If this passage is very long, then it is better for the passage to be wider than **70 cm** (27.56 ").

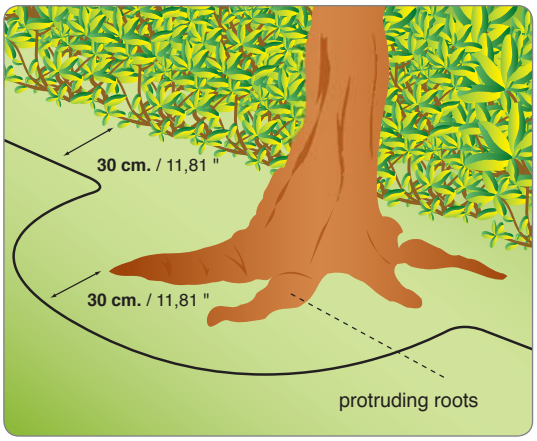
During programming, it is necessary to configure the size of the secondary areas as a percentage of the lawn, and the quickest direction for reaching it (clockwise or anti-clockwise), as well as the number of meters of wire needed to reach the secondary area. See “Programming Mode.”

If the aforesaid minimum requirements are not met and therefore, i.e. an area separated by a rise or drop with characteristics that cannot be managed by the robot or a passage (corridor) narrower than **70 cm** (27.56 ") from perimeter edge to perimeter edge, this area of the lawn area is considered a “Closed Area.” To mark a “Closed Area” lay the outgoing and incoming perimeter wire in the same track at a maximum distance of **1 cm** (0.40 "). In this case, the robot is unable to reach the area autonomously and must be managed as described in the chapter “Management of Closed Areas.” The management of “Closed Areas” reduces the square meters that can be managed by the robot autonomously. It is recommended to use the “Management of Closed Areas” only for areas smaller than **900 m2** (9684 sq.').





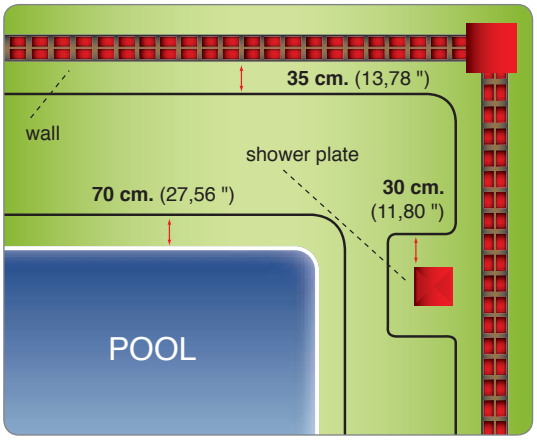
4. Mark the boundaries and trace the perimeters of the elements inside and on the border of the work area which obstruct the correct functioning of the robot.

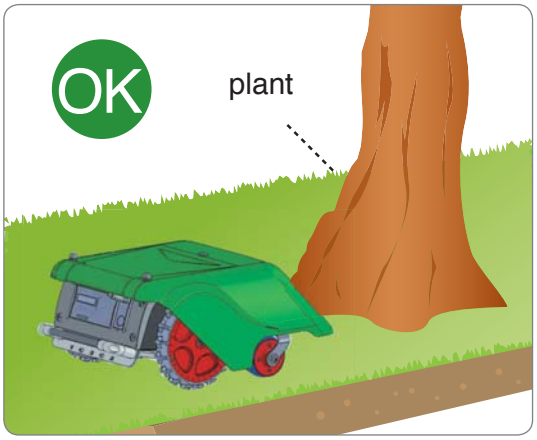


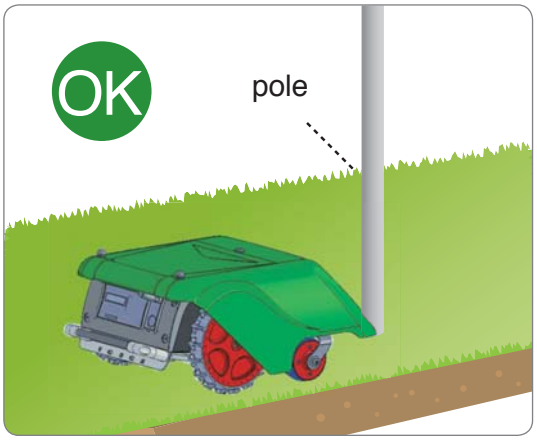
Important

The illustration shows an example of the elements inside and on the perimeter of the work area and the distances to respect for laying the perimeter wire. Mark the boundary of elements in iron or other metal (drain covers, electric connections, etc.) to prevent any interference to the signal of the perimeter wire.

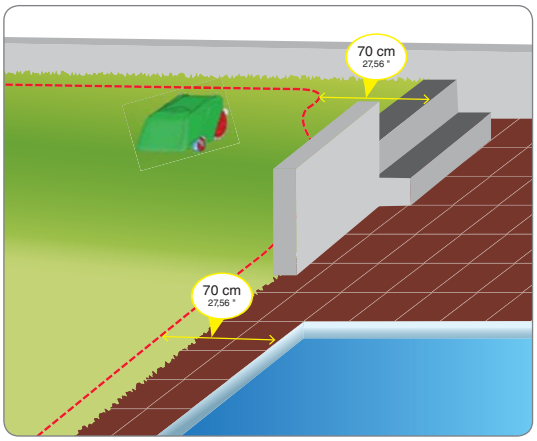
Do not delimit obstacles (trees, poles, etc.) which do not obstruct the normal functioning of the robot. These generally include obstacles that can withstand being hit by the robot such as a plant, pole, wall, etc. However, obstacles such as plants with protruding roots, flowerbeds, small plants, etc. must be delimited.







5. Delimit any areas below the surface level of the lawn (pools, areas with significant drops, stairs, etc.) (see the figure).

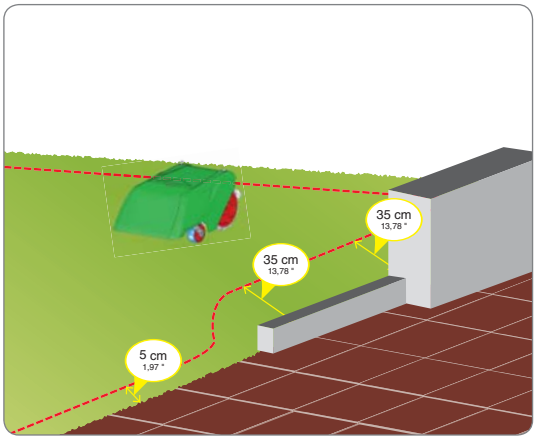


Important

Carefully respect the distances in order to prevent the robot from falling and breaking and/or being irreversibly damaged. Increase the distance by at least 30 cm / 11.81 inches in the presence of slopes or slippery ground.

6. Delimit the perimeters as shown in the figure.

- With paths at the same height as the lawn: 5 cm (1,96 ")
- With paths higher than the lawn: 35 cm (13,78 ")
- In the presence of an enclosing wall: 35 cm (13,78 ")

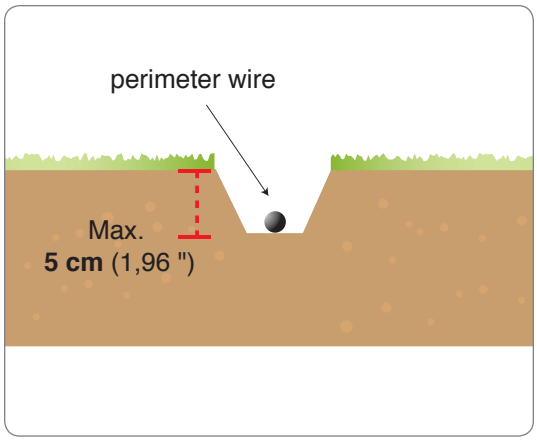


Important

Footpaths (at the same level as the lawn) for allowing the robot to pass from one area to another do not need to be delimited.

INSTALLATION OF THE PERIMETER WIRE

The perimeter wire can be buried or laid on the ground.

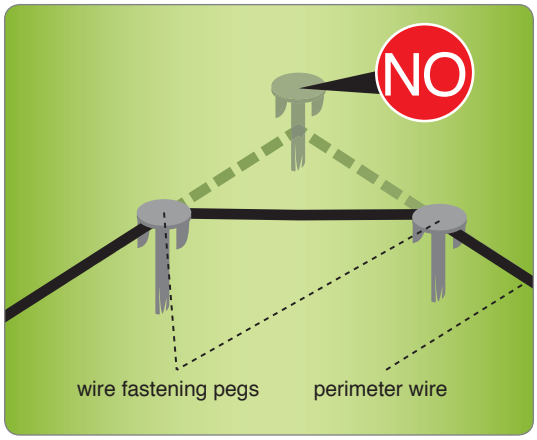


Important

Start laying the perimeter wire from the installation area of the charging station and leave a couple of meters for cutting it down to size when connecting to the unit.

Wire laid on the ground

1. Position the wire in a clockwise direction along the entire track and secure it with the pegs supplied (distance of **100÷200 cm** (39.37÷78.74 ") between each peg).



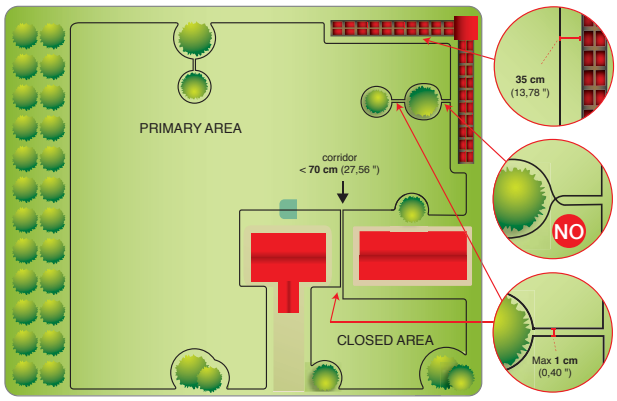
- Cut the grass as low as possible with a traditional lawnmower or trimmer along the entire path where the cable will be laid. This will make it easier to lay the cable in contact with the ground and will reduce the risk of the robot damaging the insulation.
- When laying the perimeter wire make sure to respect the rotation direction around the flowerbeds (anti-clockwise).
- In straight stretches, fasten the wire so that it is not too tight, curved and/or twisted.
- In stretches that are not straight, fasten the wire so that it is not twisted but curves in a regular manner.

Buried wire

1. Dig up the ground in a regular and symmetrical manner with respect to the line traced on the ground.
2. Position the wire in a clockwise direction along the entire length of the track at a depth of a few centimetres (around **2÷3 cm** (0.7874÷ 1.1811 ")) so as not to reduce the quality and intensity of the signal picked up by the robot.
3. During the laying of the wire, if necessary, secure it in some points with the pegs provided in order to hold it in place when covering with the dirt.
4. Cover the wire with the dirt and make sure it does not twist, but remains straight, and make sure the curved sections are regular.

Important

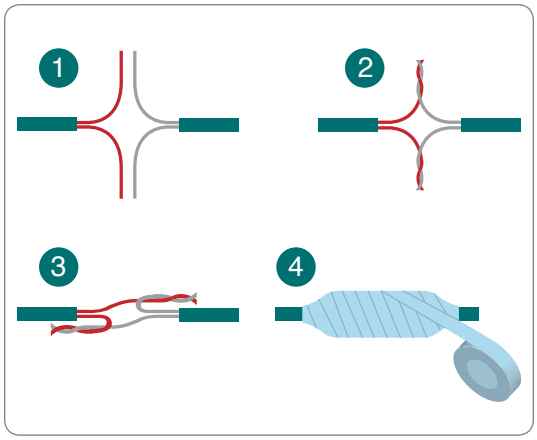
In sections of the path where it is necessary to pass two parallel wires (for example, to mark the boundary of a flowerbed), they must be laid on top of each other at a minimum distance of 1 cm (0.40 inches).



Joining of the perimeter wire.

Important

A buried wire or a wire laid on the ground can be joined to other wires having the same characteristics (see figure). When joining the two wires, make sure to use self-sticking tape (for example, 3M Scotch 23). Do not use insulating tape or any other type of joining devices (wire terminals, clamps, etc.).



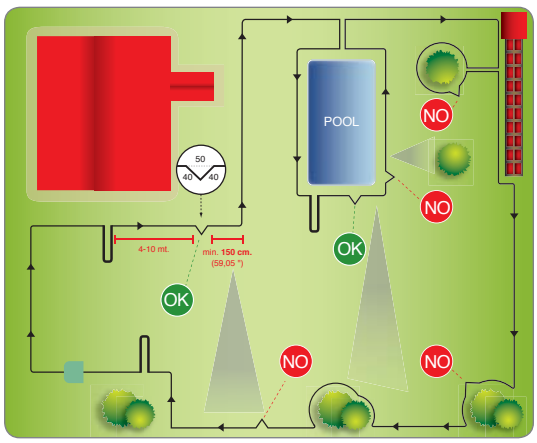
SETUP OF THE ROBOT'S QUICK RE-ENTRY TO THE CHARGING STATION

To reduce the time for the robot's re-entry to the charging station, setup the perimeter wire so that the robot can easily change direction. In this way, the robot's re-entry route is reduced. To setup the quick re-entry route, position the perimeter wire along the path so that it forms a triangle with one side equal to **50cm** (19.7 ") and two sides equal to **40 cm** (15.75 ") each. Setup the wire for quick re-entry in a point where there is at least **200 cm** (78.74 ") of straight wire in front of the station and at least **150 cm** (59.05 ") behind. Do not set up the wire along the straight section immediately in front of the charging station or near any obstacles. Make sure there are no obstacles along the re-entry path that may obstruct the quick re-entry.

Important

An incorrect setup of the robot's quick re-entry may prevent the robot from returning to the charging station quickly. When the robot travels along the perimeter to reach a secondary area, it may not detect the quick re-entry setup.

The illustration provides some useful tips on how to correctly setup the robot for a quick re-entry.

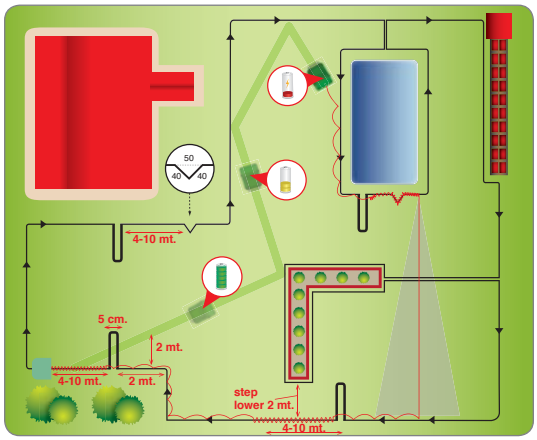


RE-ENTRY METHOD TO THE CHARGING STATION

The robot can return to the charging station in two different ways based on what is set in the user menu under the field “Back to recharge.”

“Follow wire”. In this option, the robot follows the perimeter wire, positioning the wheels on either side of the wire.

“Bounce on wire”. This option requires the perimeter wire to be installed in a special way (“Recall on the wire”) in the section before the charging station, as shown in the figure. The robot will run along the perimeter wire touching it every now and again in a rebound movement until it recognises the “Recall” to the charging station. The robot will follow the perimeter wire in a precise way for around 10 meters (33 feet) until it encounters the charging station.



“Recall bounce on wire” not only indicates to the robot that it is near the charging station, but also of a narrow passage or of an arrow for quick re-entry to the charging station. As soon as a “Recall” is recognised, the robot will follow the perimeter wire at a slow speed and with more precision for around 10 meters (33 '). It will then return to the “Bounce on wire” mode if it does not encounter the charging station or the quick re-entry.

Follow these instructions for installing the “Recall.”

- The “Recall” is a piece of wire that extends for 2 meters (6.6 ') in the garden, with a distance of 5 cm (1.96 ") between each wire.
- The “Recall” must be positioned at least 4 to 10 meters (13.2 – 33 ') before the charging station.
- The “Recall” must be positioned in the section before any narrow passages that are less than 2 meters (6.6 ') long.
- The “Recall” must be positioned in the section before the “Quick Re-entry.”

NB: If the robot does not find the charging station within a certain amount of time, it will follow the perimeter wire in “Follow wire” mode.

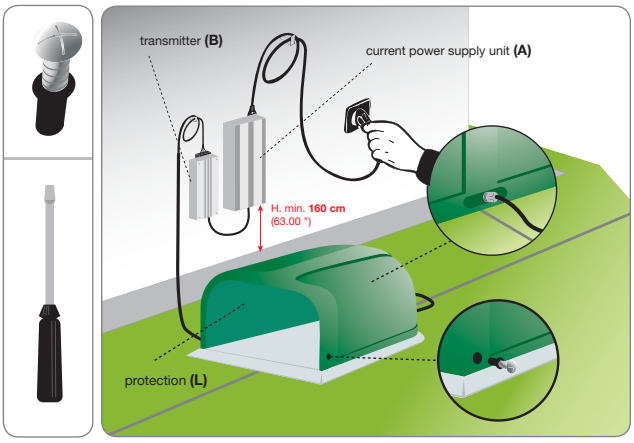
INSTALLATION OF CHARGING STATION AND POWER SUPPLY-TRANSMITTER UNIT

1. Identify the installation area of the charging station and power supply-transmitter unit.

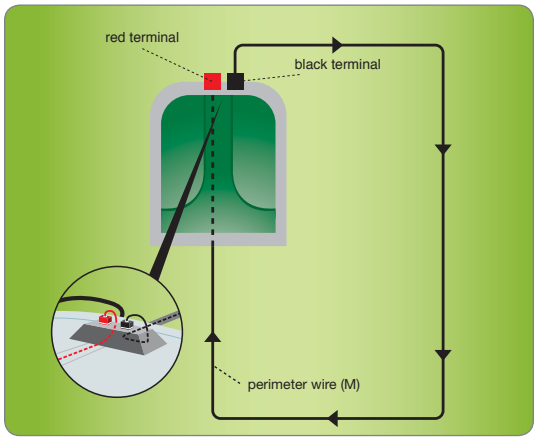
Warning - Caution

Before carrying out any operations, disconnect the robot from the mains power.

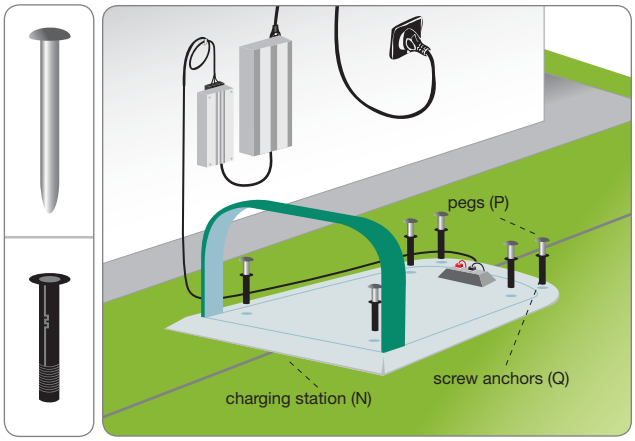
Position the power supply-transmitter unit in an area that cannot be reached by children. For example, at a height above 160 cm. (63.00 ").



2. Install the power supply-transmitter unit (A-B).
3. Remove the protection (L).
4. Position the base in the predefined area.
5. Insert the perimeter wire (M) under the base.
6. Connect the two ends of the wire to the terminals of the station.



7. Fasten the station (N) to the ground with the pegs (P). If necessary, fasten the base with the screw anchors (Q).

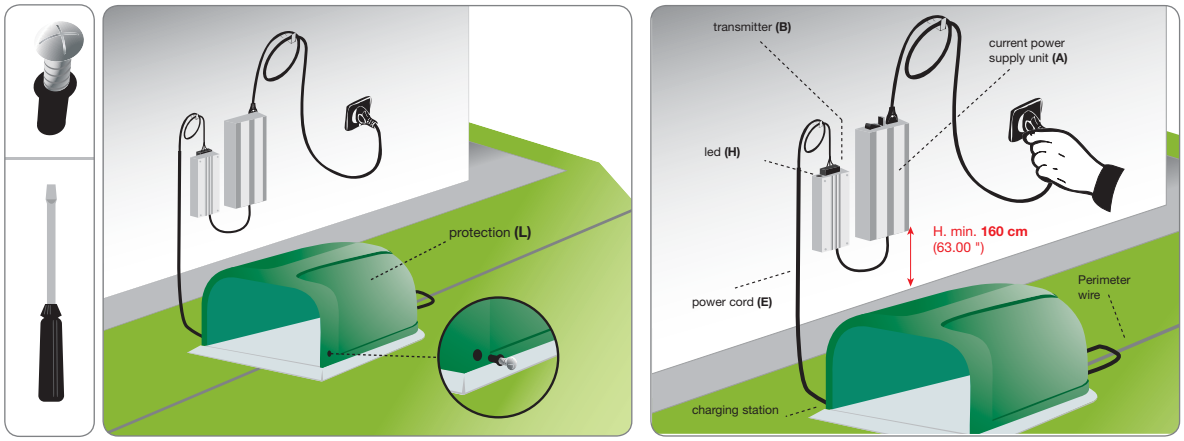


8. Replace the protection (L).

9. Connect the power cord (E) of the charging station (N) to the transmitter (B).

10. Connect the plug of the power supply unit (A) to the electrical outlet.

11. If the led (H) flashes,the connection is correct. If not, search for the fault (see “Troubleshooting Guide”).



BATTERY CHARGE ON FIRST USE

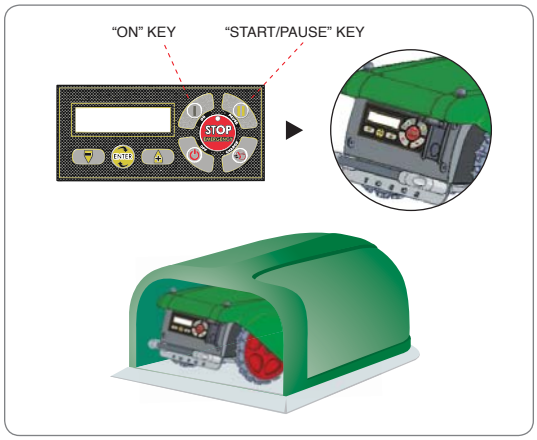
1. Place the robot inside the charging station.

2. Press the ON key.

3. After a few seconds, the message “CHARGING” will appear on the display.

4. Press the “Start/Pause” key. The “PAUSE” function appears on the display. The batteries start the charging cycle.

5. At the end of the charging, the robot can be programmed for the initial start-up (see “Programming Mode”).



Important

On first recharge, the batteries must remain connected for at least 24 hours.

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ADJUSTMENT RECOMMENDATIONS

Important

The user must make any adjustments according to the procedures described in this manual. Do not make any adjustments which are not expressly indicated in this manual. Any special adjustments not expressly indicated in this manual must only be carried out by personnel from the Manufacturer's authorised service centre.

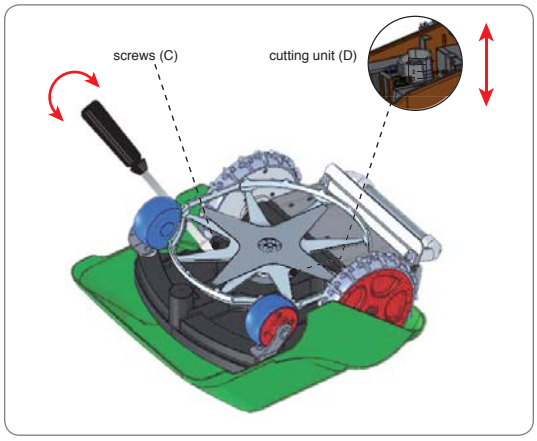
ADJUSTMENT OF CUTTING HEIGHT

Before setting the cutting height of the blade, make sure the robot has been turned off safely (see "Robot Safety Stop").

Important

Use protective gloves to prevent cutting your hands.

1. Disable the antitheft alarm to prevent it from going off (see "Programming Mode").
2. Turn over the robot and position it so as not to ruin the covering hood.
3. Unscrew the screws (C).
4. Raise or lower the cutting unit (D) to set the desired cutting height. The value is shown on the graduated scale.
5. Once the height has been set, fasten the screws (C). The higher the travel of the cutting unit (D), the lower the height of the lawn after mowing.



Important

Reduce the cutting height gradually. It is recommended to reduce the height at least by 1 cm (0.40 ") every 1-2 days until the ideal height is reached.

6. Turn the robot back over to its operating position.

OPERATING TIPS

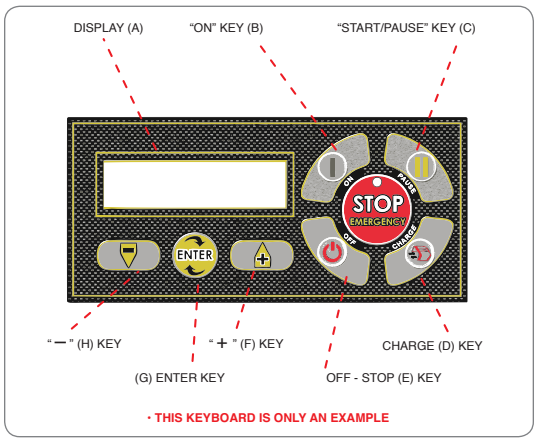
EN

Important

- **When using the robot for the first time, it is recommended to carefully read the entire manual and to fully understand it, especially the safety information.**
- **Only use the robot for the uses intended by the Manufacturer and do not tamper with any device to obtain different operating performances.**

DESCRIPTION OF ROBOT COMMANDS

The illustration shows the position of the commands on the machine.



A. DISPLAY: it is lit up to display the functions.

B. ON: press to start the mower.

C. START/PAUSE: press to stop the mower, leaving the display on "stand-by"; in this way, the mower can be programmed. Press again to restart the mower. If the key is pressed while the mower is charging, the mower does not resume working until it is pressed again and the word "PAUSE" disappears from the display.

D. CHARGE: press this key to allow the mower to return to its station and, consequently, to start recharging the batteries. If pressed while the robot is being charged, the robot interrupts the charging cycle and starts operating again.

E. OFF/STOP: press this key to stop the robot, the display turns off.

F. "+" KEY: during operation, press this key to restart the blade. During programming, press this key to increase the values proposed by the menu.

G. ENTER: during operation, press this key to activate the spiral function. During programming, press to confirm and memorise the selection.

H. "-" KEY: during operation, press to stop the blade. During programming, press to decrease the entries proposed by the menu.

I. STOP/Emergency KEY: Press to stop the mower safely. Only use in case of imminent danger and to perform maintenance on the robot.

MENU ACCESS

The robot functions can be programmed via the different functions of each menu. The table reports the menus available with the relative functions.
To program the robot, proceed as follows.

1. Press the **"ON" key (B).**
2. Enter the password (if prompted) (See **"Password Entry"**).
3. If the robot is turned on when inside the charging station, after a few seconds the message **"CHARGING"**. appears on the display.
4. Only press the **"Start/Pause" key (C)** if the robot was turned on when in the charging station. The **"PAUSE"** function now appears on the display.
5. Press the **"Enter" key (G)**. This accesses the user programming menu and the **"SETTINGS"** function appears on the display.

NAVIGATION

Follow these instructions to navigate the user programming menu:

- **"+"** and "-" **(H)** and **(F)**: allows scrolling through the menu items in a cyclical manner or changing the value of the function displayed.
- **"Enter" (G)**: moves to the next menu level or confirms and memorises the value shown in the display and skips to the next function.
- **"Pause" (C)**: goes back to the previous menu level until exiting from the programming menu.
- **"Off/Stop" (E)**: turns off the robot without confirming the last function displayed.

The menu is a hierarchal menu which moves from one function to another until arriving at the desired function.

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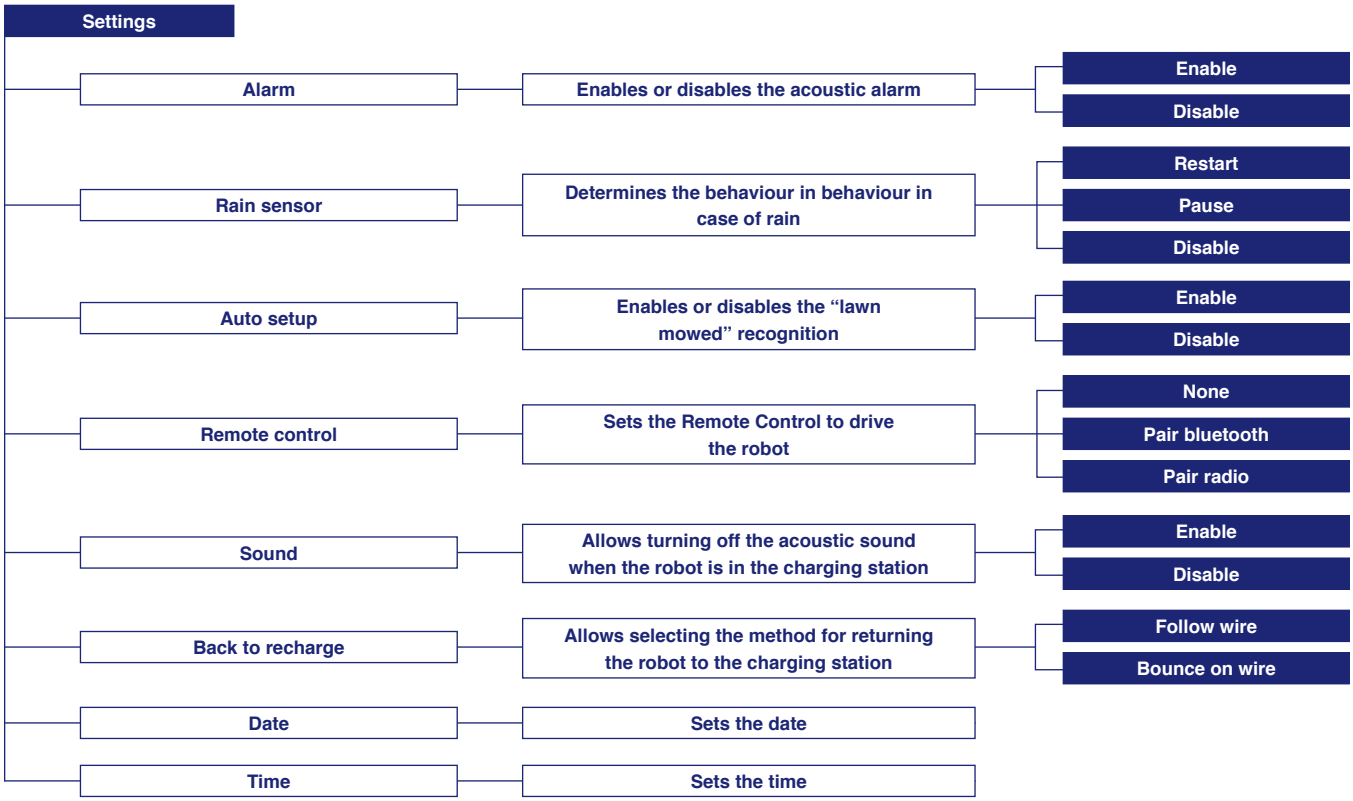
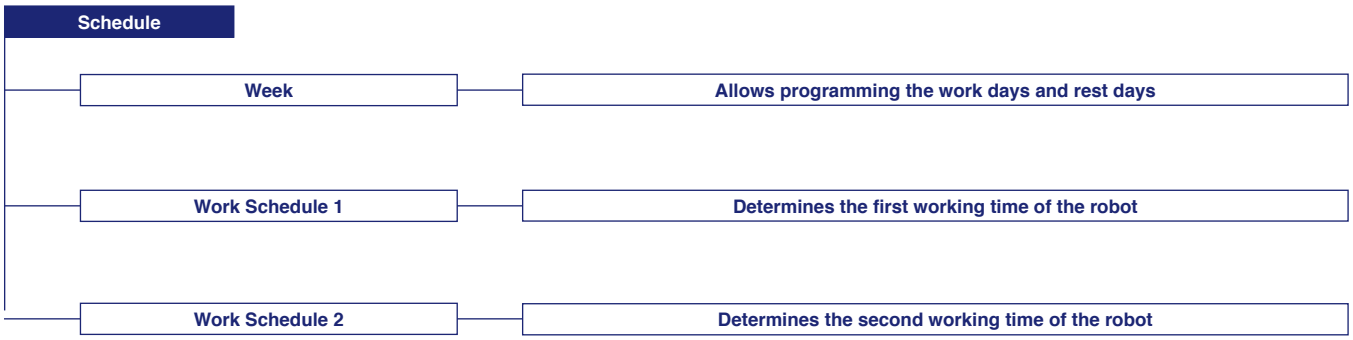
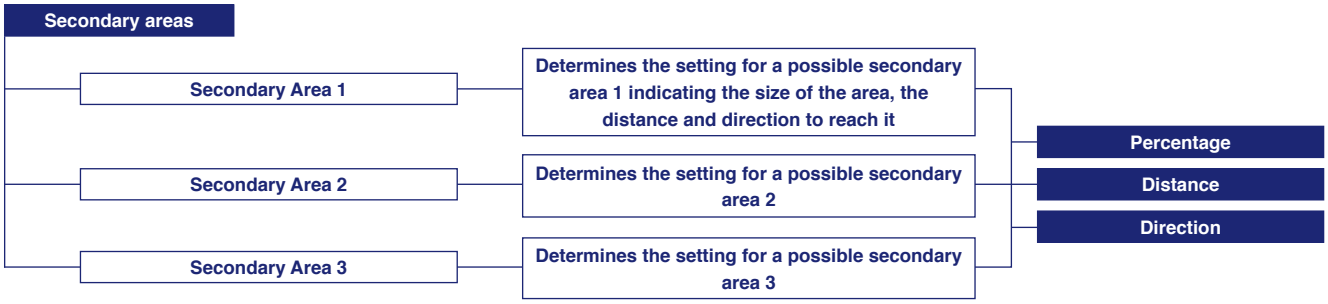
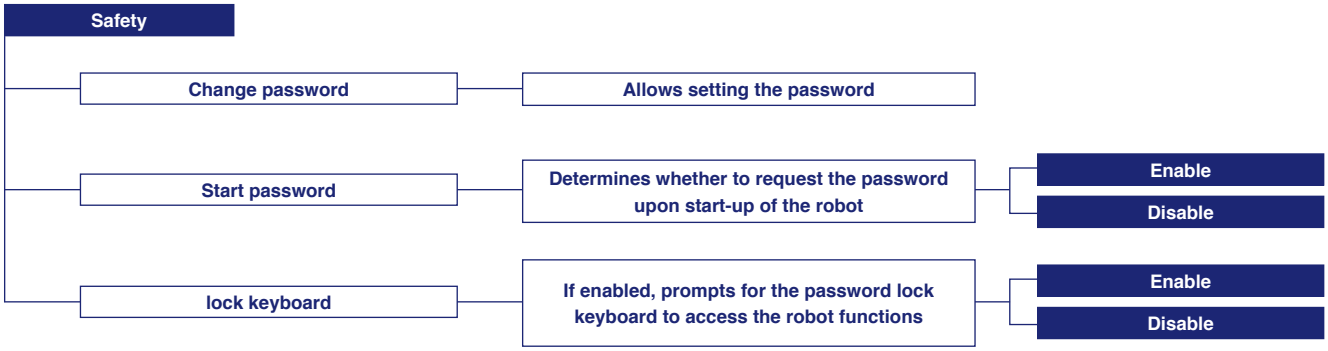
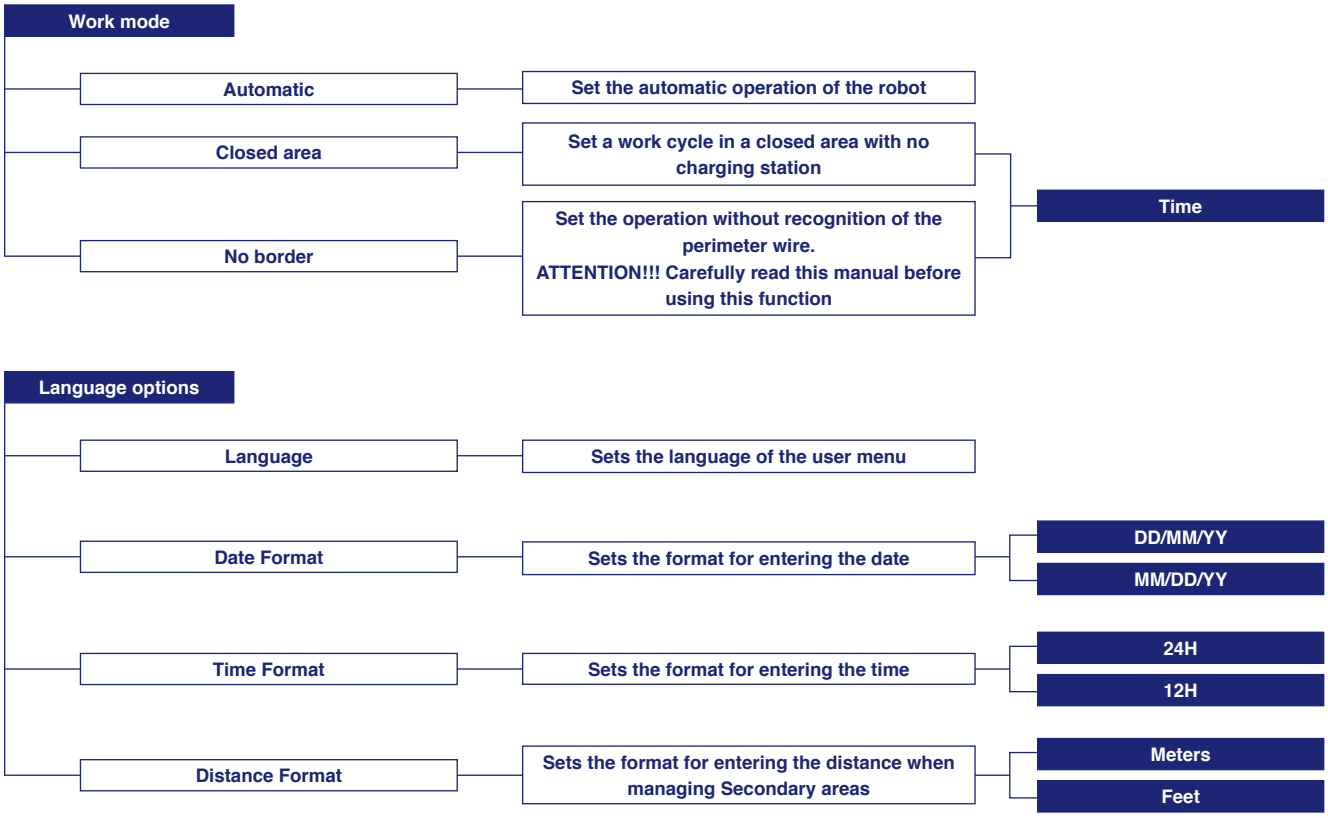

Settings
Alarm
Enables or disables the acoustic alarm
Enable
Disable
Rain sensor
Determines the behaviour in behaviour in case of rain
Restart
Pause
Disable
Auto setup
Enables or disables the “lawn mowed” recognition
Enable
Disable
Remote control
Sets the Remote Control to drive the robot
None
Pair bluetooth
Pair radio
Sound
Allows turning off the acoustic sound when the robot is in the charging station
Enable
Disable
Back to recharge
Allows selecting the method for returning the robot to the charging station
Follow wire
Bounce on wire
Date
Sets the date
Time
Sets the time


Schedule
Week
Allows programming the work days and rest days
Work Schedule 1
Determines the first working time of the robot
Work Schedule 2
Determines the second working time of the robot

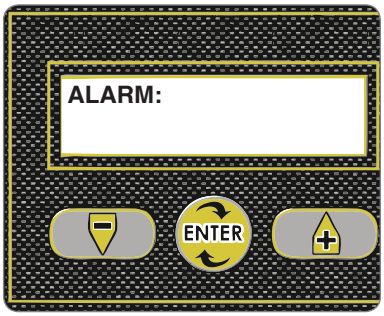

Secondary areas
Secondary Area 1
Determines the setting for a possible secondary area 1 indicating the size of the area, the distance and direction to reach it
Secondary Area 2
Determines the setting for a possible secondary area 2
Secondary Area 3
Determines the setting for a possible secondary area 3
Percentage
Distance
Direction


Safety
Change password
Allows setting the password
Start password
Determines whether to request the password upon start-up of the robot
Enable
Disable
lock keyboard
If enabled, prompts for the password lock keyboard to access the robot functions
Enable
Disable



EN

SETTINGS – PROGRAMMING MODE



ALARM: function for enabling or disabling the antitheft alarm. The password is required to disable the alarm (Default 0000).

- **Disable:** Disables or turns off the alarm if it is on. A continuous and downward sound signals the disabling of the alarm.
- **Enable:** Turns the alarm on. If the robot is lifted by its handle the alarm beeps. A triple beep signals the enabling of the alarm.

RAIN SENSOR: Function for setting the robot in case of rain.

- **Restart:** in case of rain, the robot returns to the station and remains in “charging” mode. At the end of the charging cycle, the robot only starts mowing again if it has stopped raining.
- **Disabled:** in case of rain, the robot continues to mow.
- **Pause:** in case of rain, the robot returns to the station and remains there (in “charging” mode) until the “Pause” key is pressed.

AUTO SETUP: (only for some versions, see “Technical Specifications”), function for automatically reducing the robot’s mowing time based on the conditions of the lawn.

- **Enable:** The robot reduces the working time based on the conditions of the grass. When the lawn surface is mowed, the machine automatically sets a rest period which delays subsequent departures from the charging station. However, the robot will operate within the set working times.
- **Disable:** The robot will work according to the set time and until the batteries run out.

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REMOTE CONTROL: (only for some versions, see “Technical Specifications”).
Refer to the remote control/console instructions for the pairing procedure.

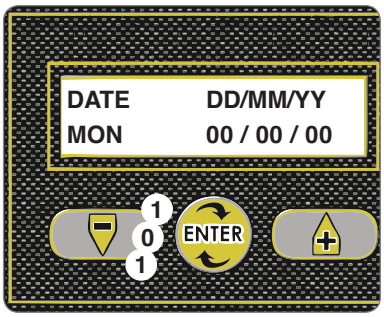
SOUND: Allows disabling the acoustic signal when the robot is in the charging station.

BACK TO RECHARGE: Allows selecting the method for returning the robot to the charging station.

1. **“Follow wire”**. The robot returns to the charging station by positioning the wheels on either side of the perimeter wire.
2. **“Bounce on wire”**. The robot will run along the perimeter wire, touching it every now and again in a rebound movement, until it recognises the “Recall” to the charging station. Refer to the “Installation” chapter.

DATE: Function for setting the date.

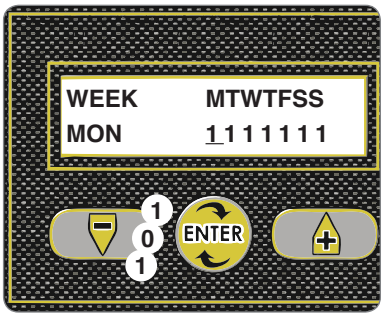
TIME: Function for setting solar or daylight saving time.



SCHEDULES – PROGRAMMING MODE

WEEK: function for programming the operating days of the robot during the week. The cursor automatically positions itself under the letter **“M” (Monday)**.
Setting all the days at **“1111111”** means that the robot will work every day. Setting **“0000000”** means that the robot will not work on any day of the week.

- **Value 1 : Robot’s work day.**
- **Value 0 : Robot’s rest day.**

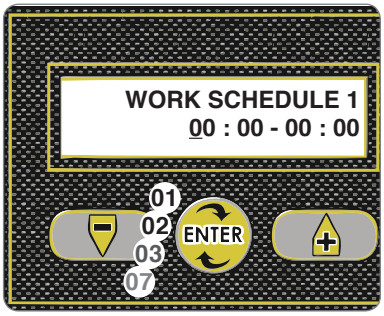


Important

To get the best out of the robot, it is recommended to program the robot to work every day.

WORK SCHEDULE 1: Function for setting the first time of the robot’s working day. The cursor automatically positions itself in the area under the first time (e.g. 10:00am to 1:00pm). Set the time for the start and end of the work. Setting the time at “00:00 – 00:00” means that the robot will not work during the first working time. If the robot emits a beep and resets the time when this is entered, it means there is an inconsistency with the time entered or with the second working time.

WORK SCHEDULE 2: Function for setting the second time of the robot’s working day.



Important

If it is necessary to set secondary areas, then it is preferable to program both working times in order to increase the mowing frequency of the area.

Important

Approximately 3.5 hours is needed to fully charge the battery. Therefore, it is recommended to leave an interval of 4 hours between working time 1 and working time 2.

The setting of the time is essential for the robot’s proper functioning. Many parameters inl uence the setting of the working time, such as the secondary areas, number of batteries, complexity of the lawn, type of grass, etc. Generally, the working hours must be increased slightly when mowing gardens with secondary areas, with lots of obstacles and complicated areas. Below is a table with the indicative times for configuring the robot on first use. NB. Set all the weekdays at “1” – “Work Days.”

m² (ft²)	Time 1		Time 2
0200 (2152)	10:00 11:00		
0500 (3230)	10:00 12:00		
	Battery 2.3Ah	10:00 11:00	14:00 15:00

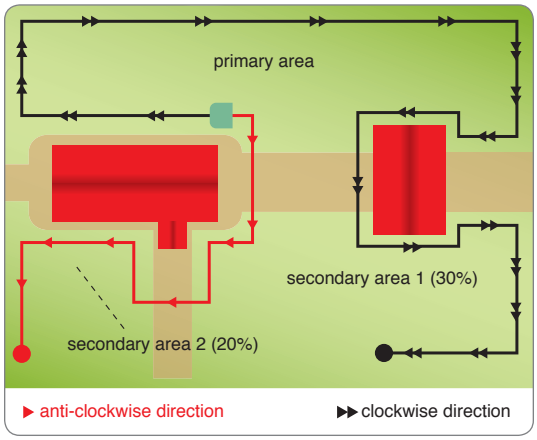
0900 (9684)	**10:00 11:30**		**16:00 17:30**
	Battery 2.3Ah	**10:00 17:00**	
1200 (12912)	**10:00 12:00**		**16:00 18:00**
	Battery 2.3Ah	**10:00 20:00**	
1500 (16140)	**10:00 12:00**		**16:00 19:00**
2000 (21520)	**08:00 21:00**		
2500 (26900)	**08:00 22:30**		
3000 (32280)	**07:00 23:30**		

SECONDARY AREAS – PROGRAMMING MODE

If the area to mow requires secondary areas based on the definition given in the chapter **"Preparation and Marking the Boundaries of the Work Areas"** then it is necessary to program the secondary areas so the robot knows how to reach the secondary area and at what frequency.

SECONDARY AREA 1 : Function for defining the automatic mowing of a secondary area.

- **Percentage:** Allows setting the dimensions of the secondary area to mow in respect to the entire lawn surface. Below is a table to use as a reference for configuring a secondary area:
  - 20% Indicates a very small area.
  - 30% Indicates an area which is approximately one third of the entire garden.
  - 50% Indicates an area which is approximately half of the entire garden.
  - 80% Indicates a secondary area which is bigger than the primary area.
  - 100%. The robot will follow the perimeter wire to mow the secondary area each time it exits the charging station.



- **Distance:** This allows setting the distance necessary for the robot to reach the secondary area by following the perimeter wire. It is recommended to measure half the distance of the secondary area to ensure that the robot starts working inside that area.
- **Direction:** Indicates the shortest direction for reaching the secondary area. The direction can be clockwise or anti-clockwise. The robot exits from the charging station and follows the wire in the indicated direction to reach the secondary area.

SECONDAY AREA 2: Function for defining the automatic mowing of secondary area number 2. This setting uses the same configuration parameters as those used for secondary area 1.

SECONDAY AREA 3: (only for some versions, see "Technical Specifications"). Function for defining the automatic mowing of secondary area number 3. This setting uses the same configuration parameters as those used for secondary area 1.

SAFETY – PROGRAMMING MODE

CHANGE PASSWORD: function for setting or changing the password.

- **No:** the password does not need to be changed.
- **Yes:** for entering or changing the password which will be used to start the robot and disable the alarm. You will prompted to enter the following information :
  - Password: Enter the old password (manufacturer's default 0000).
  - New password: Enter the new password.
  - Repeat password: Enter the new password again.

Important

To set or change the password, it is first necessary to enter the previous one and then enter your new one. Upon purchase, the password entered by the manufacturer consists of four numbers (0000).

Important

When entering the password, you will be prompted to re-enter the password in order to ensure that it has been set correctly. In order to not forget the password, choose a number combination that is easy to remember.

START PASSWORD: This function allows defining whether you want to enter a password each time the robot is turned on after a period of inactivity (e.g. storing away for winter).

- **No:** There is no need to enter a password each time the robot is turned on. The password will only be required to disable the alarm. The robot requires the password to confirm this parameter.
- **Yes:** The password will be required each time the robot is started.

WORK MODE – PROGRAMMING MODE

Function for setting the operating mode of the robot. The robot automatically returns to "AUTOMATIC" mode when turned "off."

- **Automatic:** Normal operating mode. The robot recognises the perimeter wire and returns to the charging station whenever necessary.
- **Closed area:** Operating mode in closed areas with no charging station. For the correct way to use this mode, see "USE OF ROBOT IN CLOSED AREAS WITH NO CHARGING STATON."
- **No border:** Operating mode without recognition of the perimeter wire, which is only used if you want to use the robot in small areas enclosed by a wall or fence without the perimeter wire installed, under supervision of the customer and controlled by the remote control.

LANGUAGE OPTIONS – PROGRAMMING MODE

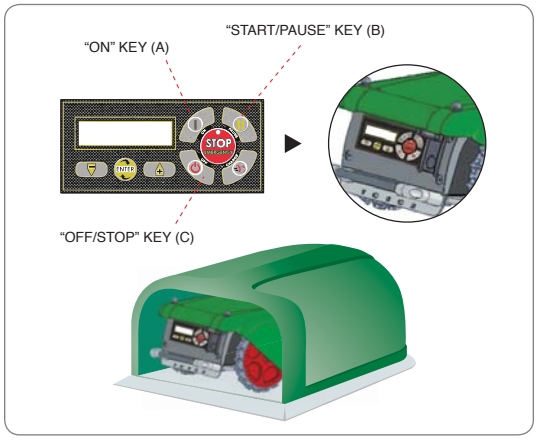
LANGUAGE: function for selecting the language to use for the messages and user menu. Scroll through the various options with the "+" or "-" key and confirm with "Enter" (G).

- **DATE FORMAT**
- **TIME FORMAT**
- **DISTANCE FORMAT**

These functions allow personalising the date, time and distance format.

INITIAL STARTUP – AUTOMATIC MODE

The start-up of the automatic cycle is executed on the initial start-up or after a period of inactivity.



1. Check that the height of the lawn surface to mow is compatible with the correct functioning of the robot (see "Technical Specifications").
2. Adjust the cutting height as desired (see "Adjustment of Cutting Height").
3. Check that the work area has been correctly marked and that there are no impediments to the regular functioning of the robot as indicated in the section "Preparation and Marking the Boundaries of the Work Areas" and following sections.
4. Position the robot inside the charging station.
5. Press the ON key and wait a few seconds for the robot to turn on completely.
6. If starting the robot for the first time, it is necessary to program the settings. However, if starting the robot after a long period of inactivity, check that the programmed functions correspond to the actual state of the lawn to mow (e.g. addition of a pool, plants, etc.) (see "Programming Mode").

7. After a few seconds, the message “CHARGING” will appear on the display.

8. The robot starts to mow the lawn according to the methods programmed.

ROBOT SAFETY STOP

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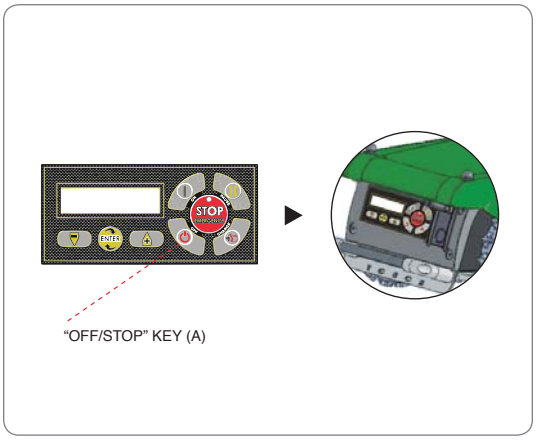
During use, it may be necessary to stop the robot. In normal conditions, the robot can be stopped with the “OFF/STOP” key. In case of danger or when performing any maintenance, it is necessary to safely stop the robot in order to prevent the blade from accidently starting. Press the “STOP/Emergency” key (A) to stop the robot. Press the “STOP/Emergency” key (A) again to restart the robot.

Important

The robot safety stop is necessary when carrying out any maintenance and repairs (for example, replacement and/ or recharging of the battery, replacement of the blade, cleaning operations, etc.).



AUTOMATIC RETURN TO THE CHARGING STATION

The robot stops the work cycle if the following conditions are verified.

- **Discharged batteries:** The robot automatically returns to the charging station.
- **Rain:** In case of rain, the robot automatically returns to the charging station and starts operating again according to what has been programmed (see “Programming Mode”).
- **Lawn mowed (only for some versions, see “Technical Specifications):** If the sensor detects that the lawn has already been mowed, it automatically returns to the charging station and starts operating again according to what has been programmed (see “Programming Mode”).
- **End of working time:** At the end of the working time, the robot automatically returns to the charging station and starts operating again according to what has been programmed (see“Programming Mode”).

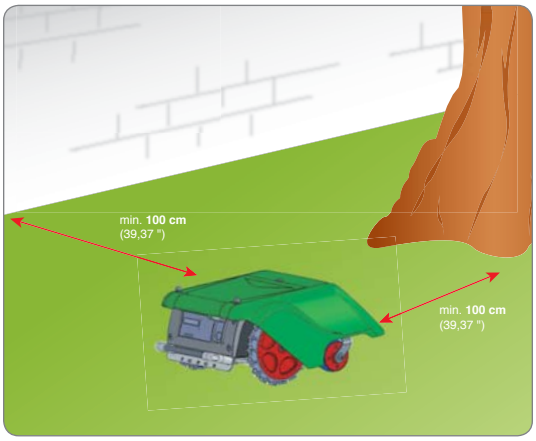
USE OF THE ROBOT IN CLOSED AREAS WITH NO CHARGING STATION

The start-up of the robot in “closed area” mode is for mowing closed areas which are delimited by the perimeter wire and which have no charging station.

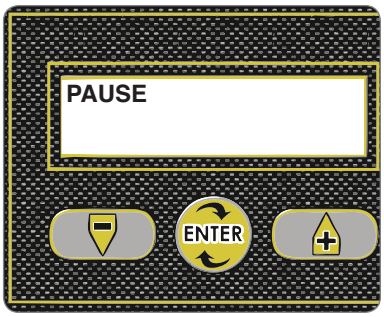
Warning - Caution

Carry the robot by the handle located on the back. Use protective gloves to prevent injuries to your hands.

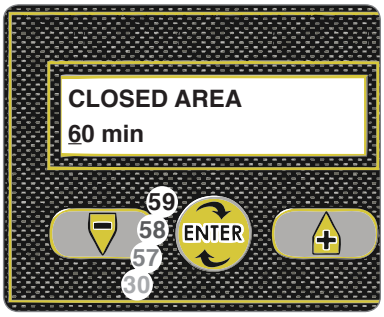
Position the robot inside the work area at a minimum distance of **100 cm** (39,37 ") from the perimeter wire and from any other obstacle.



1. Press the ON key (A).
2. Enter the password (if prompted) (See “Password Entry”).
3. The “PAUSE” function appears on the display.



4. Enter the programming menu and select “WORK MODE.” Select “CLOSED AREA” and the words “CLOSED AREA – 60 Min” (default value) will appear on the display.
5. Press either the “+” or “-” key to set the minutes.
6. Press “Enter” to confirm.
7. Press the “Start/Pause” key (B) to exit the programming mode and then restart the robot. After the set time, the robot safely stops next to the perimeter wire.
8. Restore the normal functioning of the robot as described in chapter “INITITAL START-UP – AUTOMATIC MODE.”.



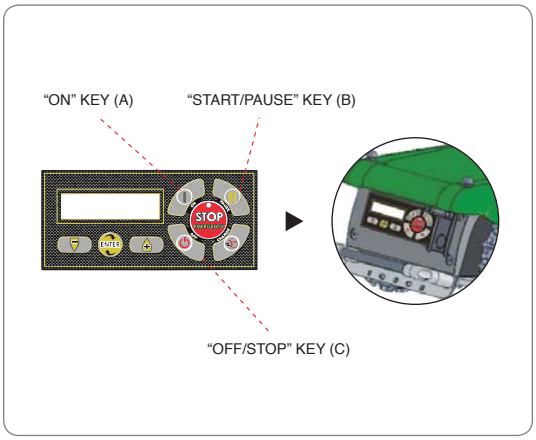
STARTING THE ROBOT WITHOUT THE PERIMETER WIRE

This mode can be executed with the remote control to mow areas completely surrounded by fences or small areas whose boundaries cannot be marked or for practical demonstrations on the functioning of the robot.

Important

When using the robot without the perimeter wire, make sure the robot does not run into obstacles, corners or dangerous objects.

1. Press the ON key (A).
2. Enter the password (if prompted) (See “Password Entry”).
3. Press “Enter” to enter into programming mode. Scroll through the items until reaching “WORK MODE” Set the option “NO BORDER” Press either the “+” or “-” key to set the working minutes of the robot.
4. Press “Enter” to confirm the selection.
5. Press “Start/Pause” (B) several times to exit from the menu and to restart the robot.
6. Manoeuvre the robot using the remote control.
7. At the end of mowing, press the “OFF/ STOP” key (C) to safely stop the robot (see “Robot Safety Stop”).



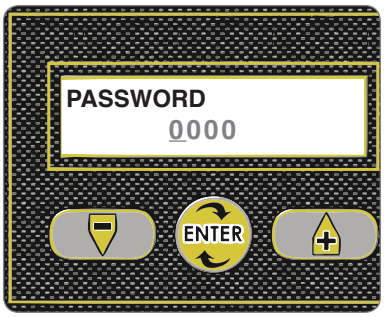
Important

It is recommended to move the robot with the remote control when mowing inside a narrow, well-visible area and to make sure there are no people or domestic animals next to the operating zones of the robot.

PASSWORD ENTRY

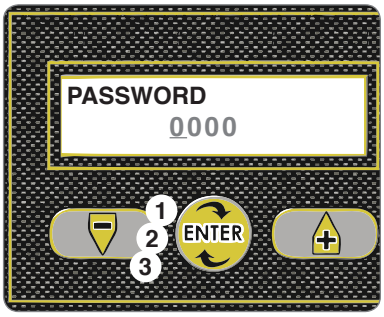
The robot can be protected by a password consisting of four numbers, which can be enabled, disabled and personalised by the user (see “Programming Mode”).

1. On the display appears the message:



2. Press either the “+” or “-” key to set the first number.
3. Press “Enter” to confirm. The cursor moves to the next position.
4. Repeat the procedure to set all the numbers of the password.

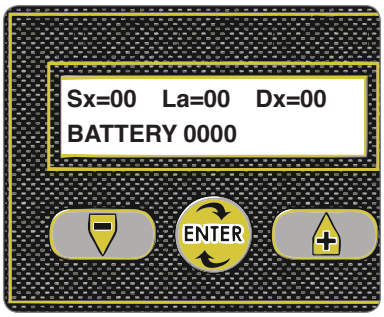
At this point, the robot is ready for use.



VISUALISING THE DISPLAY DURING THE WORK PHASE

While in operation, the following data appears on the display of the robot:

- left wheel motor speed
- blade motor speed
- right wheel motor speed
- battery voltage



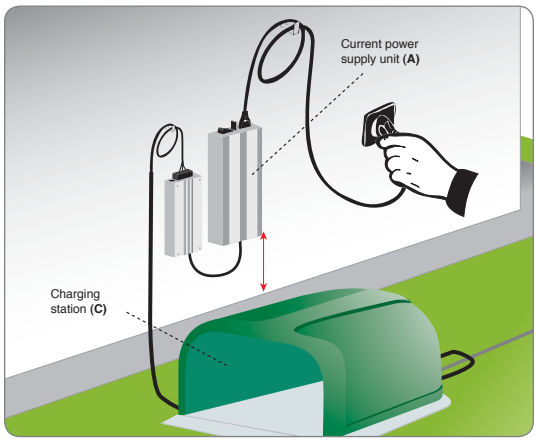
While the robot is charging, the word “CHARGING” appears on the display.

If the robot is outside the working time, the display shows the day and time of the next scheduled start.

PROLONGED INACTIVITY AND RESTARTING

If the robot has not been used for a long period of time, it is necessary to perform a series of operations to guarantee the correct functioning at the time of reuse.

1. Accurately clean the robot and charging station (see “Robot Cleaning”).
2. Recharge the battery at least every five months if using lithium batteries (see “Recharging batteries after prolonged inactivity”).
3. Store the robot in a protected and dry location with an ambient temperature between 10° and 25° C (50°F - 77°F), out of reach of children, domestic animals, etc.
4. Disconnect the power plug from the power supply unit (A).
5. Cover the charging station (C) to prevent any foreign materials from getting inside (leaves, paper, etc.) and for preserving the contact plates.



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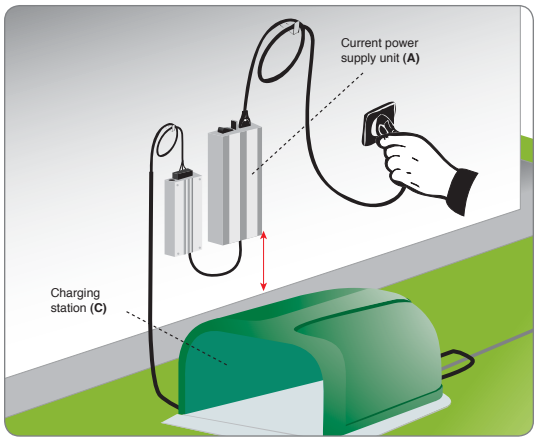
Restarting

Before restarting the robot after a long period of inactivity, proceed as follows.

1. Connect the plug of the power supply unit (A) to the electrical outlet.
2. Reconnect the main electrical power supply.
3. Place the robot inside the charging station.
4. Press the ON key (A).
5. Enter the password (if prompted) (See “Password Entry”).
6. After a few seconds, the message “CHARGING” will appear on the display.
7. At this point, the robot is ready to use (see “Programming Mode”).



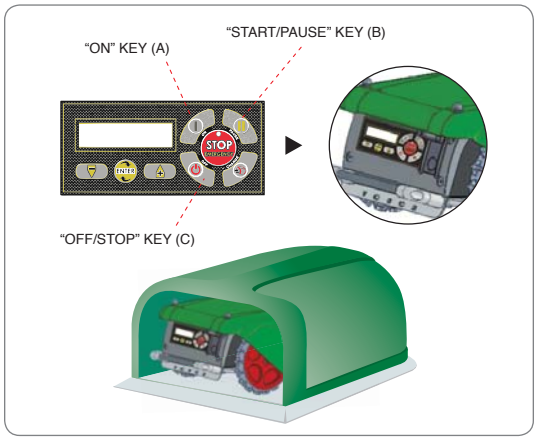
BATTERY CHARGING AFTER PROLONGED INACTIVITY

Recharge the battery at least every five months if using lithium batteries.

Danger - Attention

Do not recharge the robot in explosive and flammable environments.

1. Supply electricity to the charging station and make sure the plates are clean.
2. Position the robot inside the charging station.
3. Press the “ON” key (A).
4. Enter the password (if prompted) (See “Password Entry”).
5. After a few seconds, the message “CHARGING” will appear on the display.
6. Press the “Start/Pause” key (B). The batteries start the charging cycle.
7. At the end of the charging cycle (approx. 6 hours), press the “OFF/STOP” key (C).
8. Store the robot in a protected and dry location with an ambient temperature between 10° and 25° C, out of reach of children, domestic animals, etc.



OPERATING TIPS

Below are some useful operating tips to follow when using the robot.

- Even after being suitably informed on the use of the robot, simulate some test manoeuvres on first use to identify the commands and main functions.
- Check and secure the fastening screws of the main components.
- Mow the lawn frequently to avoid excessive growth of the grass.
- Do not use the robot to mow grass that is **1 cm** (0,40 ") shorter than the cutting blade.
- If the lawn is equipped with an automatic sprinkler system, program the robot to return to the charging system at least one hour before the sprinklers are turned on.
- Check the slope of the ground and make sure the maximum values allowed are not exceeded in order to prevent damage to the robot and the sprinklers.
- We recommend programming the mower so that it does not work more than is necessary, also taking into consideration the different growth rates of the grass in different seasons, so as not to subject it to unnecessary deterioration and reduction of the battery life.
- When using the robot make sure the work area is clear of people (in particular children, the elderly or disabled people) and domestic animals in order to prevent safety risks. To minimize chance of injury, operate the robot during times when the yard is not being used.

ORDINARY MAINTENANCE

MAINTENANCE RECOMMENDATIONS

Important

During maintenance, use personal protection equipment indicated by the Manufacturer, especially when working on the blade. Before carrying out any type of maintenance, make sure the robot is turned off (see “Robot Safety Stop”).

SCHEDULED MAINTENANCE TABLE

Frequency	Part	Type of maintenance	Reference
Weekly	Blade	Clean and check the efficiency of the blade. Replace the blade if bent due to an impact or if very worn.	See “Robot Cleaning” See “Blade replacement”
	Battery charging knobs	Clean and remove any oxidations	See “Robot Cleaning”
	Contact plates	Clean and remove any oxidations	See “Robot Cleaning”
Monthly	Robot	Clean the robot	See “Robot Cleaning”

ROBOT CLEANING

1. Stop the robot safely (see “Robot Safety Stop”).

Warning - Caution

Use protective gloves to prevent cutting your hands.

2. Clean the outside surfaces of the robot with a sponge soaked in warm water and a mild detergent. Squeeze the sponge to remove any excess water before use.

Warning - Caution

The use of too much water may cause water to penetrate into the robot which could damage the electrical parts.

3. Do not use solvents or benzene so as not to damage the painted surfaces and plastic components.
4. Do not wash the internal parts of the robot and do not use jets of pressurised water so as not to damage the electric and electronic parts.

Warning - Caution

In order to not cause irreversible damage to the electric and electronic components, do not immerse the robot, partially or completely, in water because it is not watertight.

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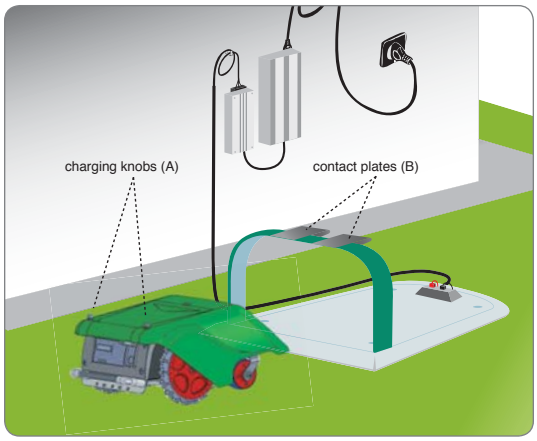
5. Check the lower part of the robot (cutting blade area, and wheels) and remove any deposits and/or residuals that may obstruct the correct functioning of the robot.
6. To remove any deposits and/or other residuals from the blade, use a suitable brush.
7. Use a dry cloth and, if necessary, fine sandpaper, to clean the knobs of the battery charger (A) and the contact plates (B) and to remove any deposits or residuals caused by electric contacts.
8. Clean the inside of the charging station to remove any accumulated residuals.



TROUBLESHOOTING

TROUBLESHOOTING GUIDE

The information below is designed to help identify and correct any faults and/or malfunctions which may occur during operation. Some failures can be fixed by the user, while others require specific technical skills or special abilities and therefore must only be fixed by qualified personnel with certified experience gained in the specific field of intervention.

Problem	Cause	Remedies
The antitheft alarm continues to operate	Alarm enabled	Disable the alarm (see “Programming Mode”)
The antitheft alarm does not work	Alarm disabled	Enable the alarm (see “Programming Mode”)
The robot is very noisy	Cutting blade damaged	Replace the blade with a new one (see “Blade Replacement”)
	Cutting blade fouled (tape, cords, plastic fragments, etc.)	Stop the robot safely (see “Robot Safety Stop”). Unclog the blade **Warning - Caution** **Use protective gloves to prevent injury.**
	The robot was started in the presence of obstacles (fallen branches, forgotten objects, etc.)	Stop the robot safely (see “Robot Safety Stop”)
		Remove the obstacle and restart the robot (see “Start-up and manual stopping of the robot (in closed areas)”)
	Electric motor failure	Have the motor replaced or repaired by your nearest authorised service centre
	Grass too high	Increase the cutting height (see “Adjustment of cutting height”)
		Carry out a preliminary cutting of the area with a normal lawnmower
The robot does not position itself correctly inside the charging station	Incorrect positioning of the perimeter wire or power cord of the charging station	Check the connection of the charging station (see “Installation of the charging station and power supply-transmitter unit”)
	Collapsing of ground next to the charging station	Position the charging station on a flat and stable surface (see “Planning of plant installation”)
The robot does not behave correctly around the flowerbeds	Perimeter wire laid incorrectly	Reposition the perimeter wire correctly (anti-clockwise direction (see “Installation of perimeter wire”)
The robot works at the wrong time	Clock was set incorrectly	Reset the clock of the robot (see “Programming Mode”)
	Working time was set incorrectly	Reset the working time (see “Programming Mode”)
The robot does not execute the quick re-entry	Quick re-entry not setup correctly	Check the exact layout of the quick re-entry (see “Layout of the robot’s quick re-entry to the charging station”)

Problem	Cause	Remedies
The work area is not completely mowed	Not enough work hours	Reset the working time (see “Programming Mode”)
	Cutting blade fouled	Stop the robot safety (see “Robot Safety Stop”) **Warning - Caution** **Use protective gloves to prevent injury** Clean the cutting blade
	Cutting blade worn out	Replace the blade with an original spare part (see “Blade replacement”)
	Work area too big compared to the actual capacity of the robot	Adjust the work area (see “Technical specifications”)
	The batteries are about to run out	Replace the batteries with original spare parts (see “Battery replacement”)
	The batteries do not charge completely	Clean and remove any oxidisations from the contact points of the batteries (see “Robot Cleaning”). Recharge the batteries for at least 12 hours
Secondary area not completely mowed	Incorrect programming	Correctly program the secondary area (see “Programming Mode”)
On the display appears “No Signal”	The perimeter wire is not connected correctly (broken cable, no electrical connection, etc.)	Check the functioning of the electrical power supply, the correct connection of the power supply-transmitter unit and that of the charging station (see “Installation of charging station and power supply-transmitter unit”)
On the display appears “Out of border”	Too much slope	Delimit the area with too much slope (see “Planning of plant installation”). Install the kit for working on ground with slopes greater than 35% (see “Technical Specifications”)
	Perimeter wire laid incorrectly	Check that the wire has been installed correctly (e.g. too deep, next to metallic objects, distance between the wire marking the two elements less than 70 cm, etc.) (see “Planning of Plant Installation”)
	Perimeter wire marking the boundary of the inside areas (flowerbeds, bushes, etc.) laid in an anticlockwise direction	Reposition the perimeter wire correctly (anti-clockwise direction) (see “Installation of perimeter wire”)
	Overheated power supply unit	Adopt the appropriate measures to reduce the temperature of the power supply unit (ventilate or modify the installation area, etc.) (see “Planning of plant installation”)
	Incorrect wheel transmission	Check and, if necessary,correctly fasten the wheels
“Blackout” appears on the display	Interruption of the power supply to the transmitter	Restart the robot
	Overheated power supply un	Adopt the appropriate measures to reduce the temperature of the power supply unit (ventilate or modify the installation area, etc.) (see “Planning of plant installation”)
	Presence of other installations nearby	Contact an authorised Service Centre
	Perimeter wire oxidised caused by damage to the protective sheathing	Contact your nearest authorised service centre to check the impedance (Ohm) of the perimeter wire
“Wheel error” appears on the display	Ground is uneven or contains obstacles that prevent movement	Make sure the lawn to mow is even and does not contain holes, stones or other obstacles. Otherwise, fill in any holes and remove any obstacles (see “Preparation and marking the boundaries of the work areas (primary and secondary areas)”)
	Failure of one or both motors that operate the transmission of the wheels	Have the motor replaced or repaired by your nearest authorised service centre
“Bump Error” appears	The bumper sensors are blocked	Remove the hood and check the functionality of the sensors

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Problem	Cause	Remedies
“Safety Lift” appears on the display	Front body sensor does not work	Makes sure the upper body is positioned correctly. If the problem persists, contact your nearest authorised service centre
“Sync error” appears on the display	The robot’s receiver does not recognise the signal	Turn the robot off and then turn it back on again. If the problem persists, contact your nearest authorised service centre
“Too high grass” or “Blade Error” appears on the display	Cutting blade damaged	Replace the blade with a new one (see “Blade Replacement”)
	Cutting blade fouled (tape, cords, plastic fragments, etc.)	Stop the robot safely (see “Robot Safety Stop”) **Warning - Caution** **Use protective gloves to prevent injury.** Unclog the blade
	The robot was started too close to obstacles (less than a distance of m) or in the presence of obstacles (fallen branches, forgotten objects, etc.)	Stop the robot safely (see “Robot Safety Stop”)
		Remove the obstacles and restart the robot (see “Start-up and manual stopping of the robot (in closed areas)”)
	Electric motor failure	Have the motor replaced or repaired by your nearest authorised service centre
	Too high grass	Increase the cutting height (see “Adjustment of cutting height”) Carry out a preliminary cutting of the area with a normal lawnmower
The remote control does not work	Programming error	Correctly program the remote control (see “Programming Mode”)
	The LED of the remote control does not light up	Remove the batteries and replace them
“Safety Lift” appears on the display	Sensor indicating the presence of the body is not positioned correctly	Remove the hood, makes sure it is correctly inserted in the front slot
“Watchdog error” appears on the display	The internal “software safety” system is enabled	Turn the robot off and on. If the problem persists, contact your nearest authorised service centre
“Tilt” appears on the display	The robot is located on a level that is higher than the allowed limits	Mark off the area that is too steep
	The robot is located on a level that is lower than the allowed limits	Check that the charging station is positioned on a flat surface. Turn the robot off and on while in the charging station and try again. If the problem persists, contact your nearest authorised service centre
The led (c) does not turn on	No power supply	Make sure the power supply unit is correctly connected to the power outlet
	Interrupted fuse	Have the fuse replaced by your nearest authorised service centre
The LED (C) of the transmitter is on	Interrupted perimeter wire	Stop the robot safely (see “Robot Safety Stop”). Disconnect the power plug from the power supply unit. Join the perimeter wire

PARTS REPLACEMENT

RECOMMENDATIONS FOR REPLACING PARTS

Important

Replace and repair any parts according to the manufacturer’s instructions, or contact the service centre if these operations are not included in the manual.

BATTERY REPLACEMENT

Important

Replace the batteries at an authorised service centre.

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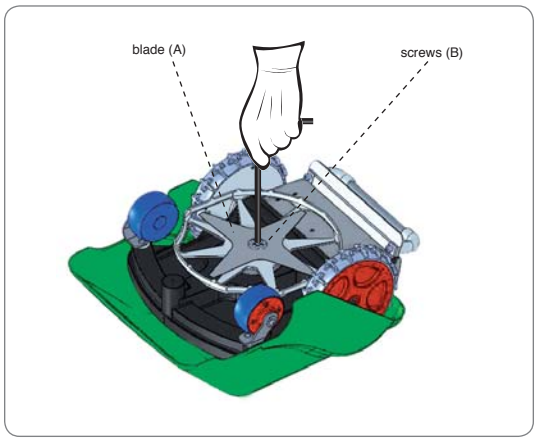
BLADE REPLACEMENT

1. Stop the robot safely (see “Robot Safety Stop”).

Important

Use protective gloves to prevent injury.

2. Turn the robot over and position it so as not to ruin the covering hood.
3. Unscrew the screws (B) to remove the blade (A).
4. Insert a new blade and fasten the screws.
5. Turn the robot back over to its operating position.



ROBOT DISPOSAL

- Do not disregard any polluting material into the environment. Dispose of the robot according to the applicable laws.
- In reference to the WEEE Directive (Waste of Electrical and Electronic Equipment), during the phasing out of the machine, the user must separate the electrical and electronic components and dispose of them in special authorised waste collection centres, or take them back to the retailer when purchasing a new one.
- All the parts, which must be collected separately or disposed of in a specific manner, are marked with a special label.
- Unauthorised disposal of Waste of Electric and Electronic Equipment (WEEE) is punishable with sanctions regulated by the laws in force in the country where the infraction took place.

Danger - Attention

Waste of Electric and Electronic Equipment may contain hazardous substances having potentially harmful effects on the environment and on the health of people. It is recommended to dispose of this waste in the correct manner.

EC DECLARATION OF CONFORMITY

ZUCCHETTI Centro Sistemi S.p.A. Via Lungarno 305/A Terranuova B.ni (AR) ITALY

Hereby declares under their full responsibility that the products, models 9L2BL, 9L2DL, 9L2EL, 9L2LL conform to the following European standards:

Safety: CEI EN (50338: 2007-06) - (60335-1: 2008-07)
Electromagnetic Compatibility: CEI EN (55014-1: 2008 -01) - (55014-2: 1998 -10) - (55014-2/A1: 2002 -08) - (55014-2/A2: 2008 -12) CEI EN (61000-3-2: 2007-04) - (61000-3-3: 1997-06) - (61000-3-3/A1: 2002-05).
It meets the essential requirements of the following directives: :
Low Voltage Directive 2006/95/CE - **Electromagnetic Compatibility** 2004/108/CE – **Noise Emission according to Machinery Directive** 2006/42/CE

Bernini Fabrizio - Terranuova B.ni 01/10/2010
(CEO)

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